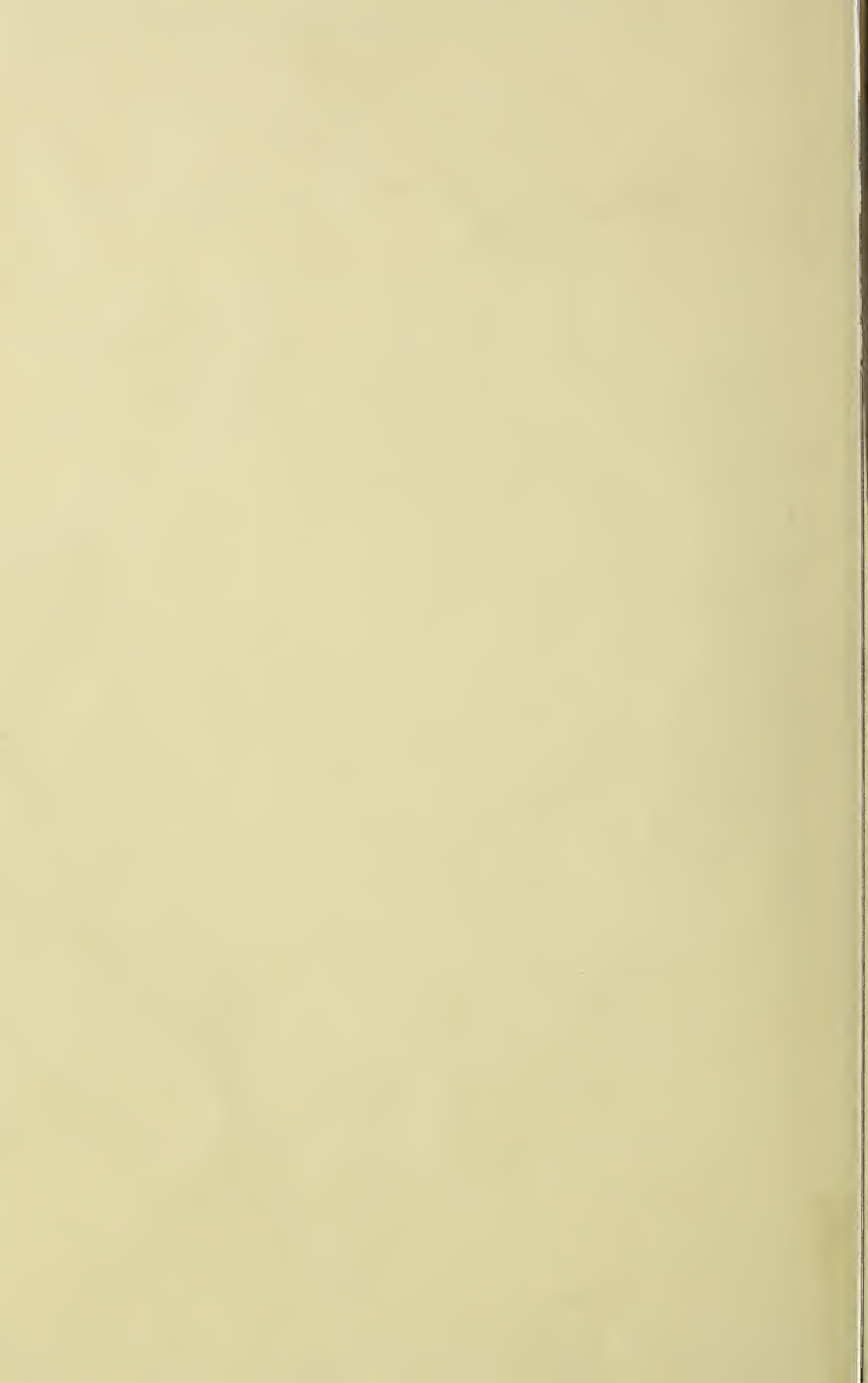


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VOLUME XXII

NUMBER 4

THE AGRICULTURAL STUDENT



DECEMBER 1915

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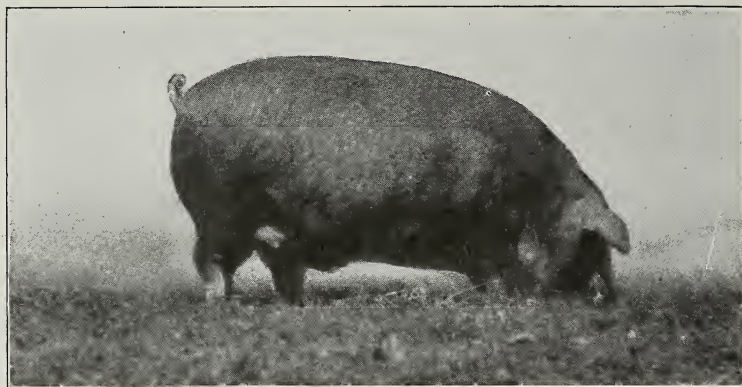
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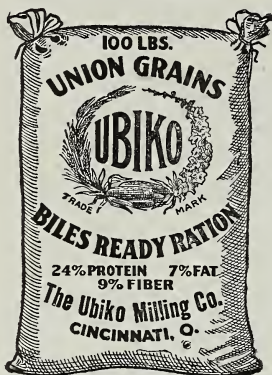
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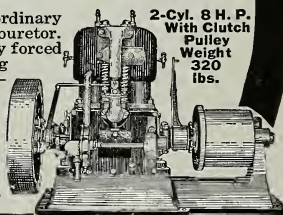
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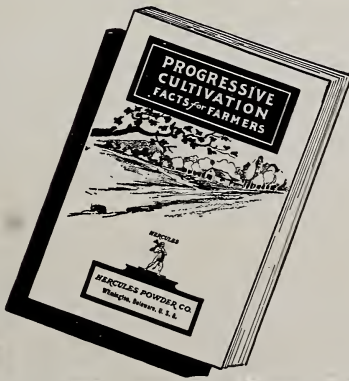
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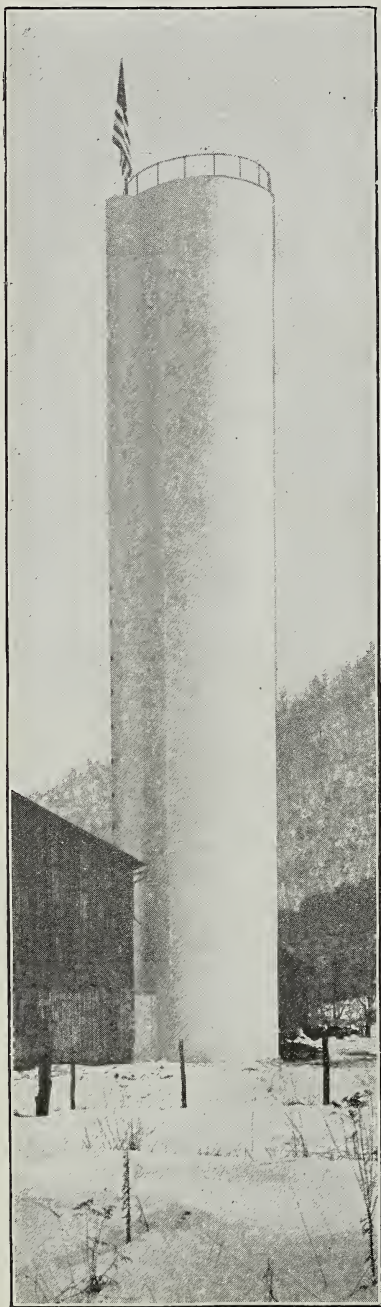
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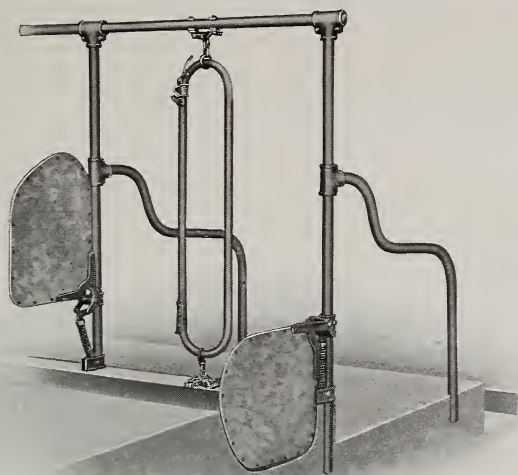
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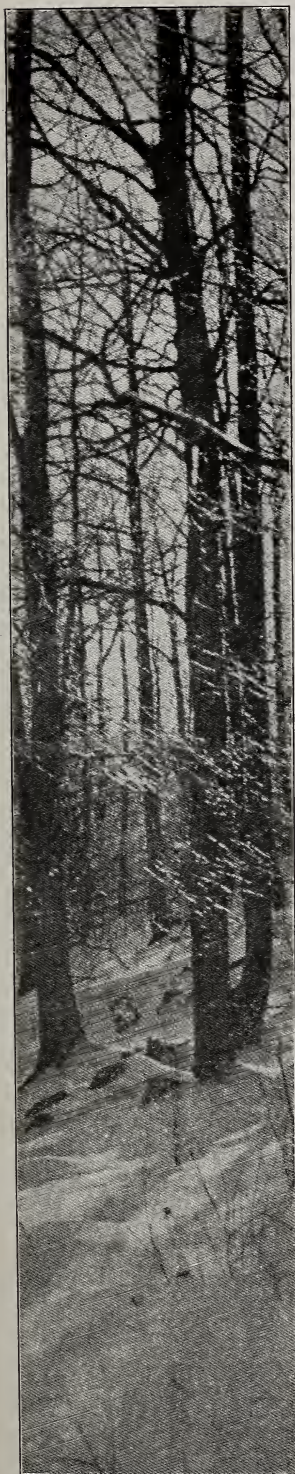
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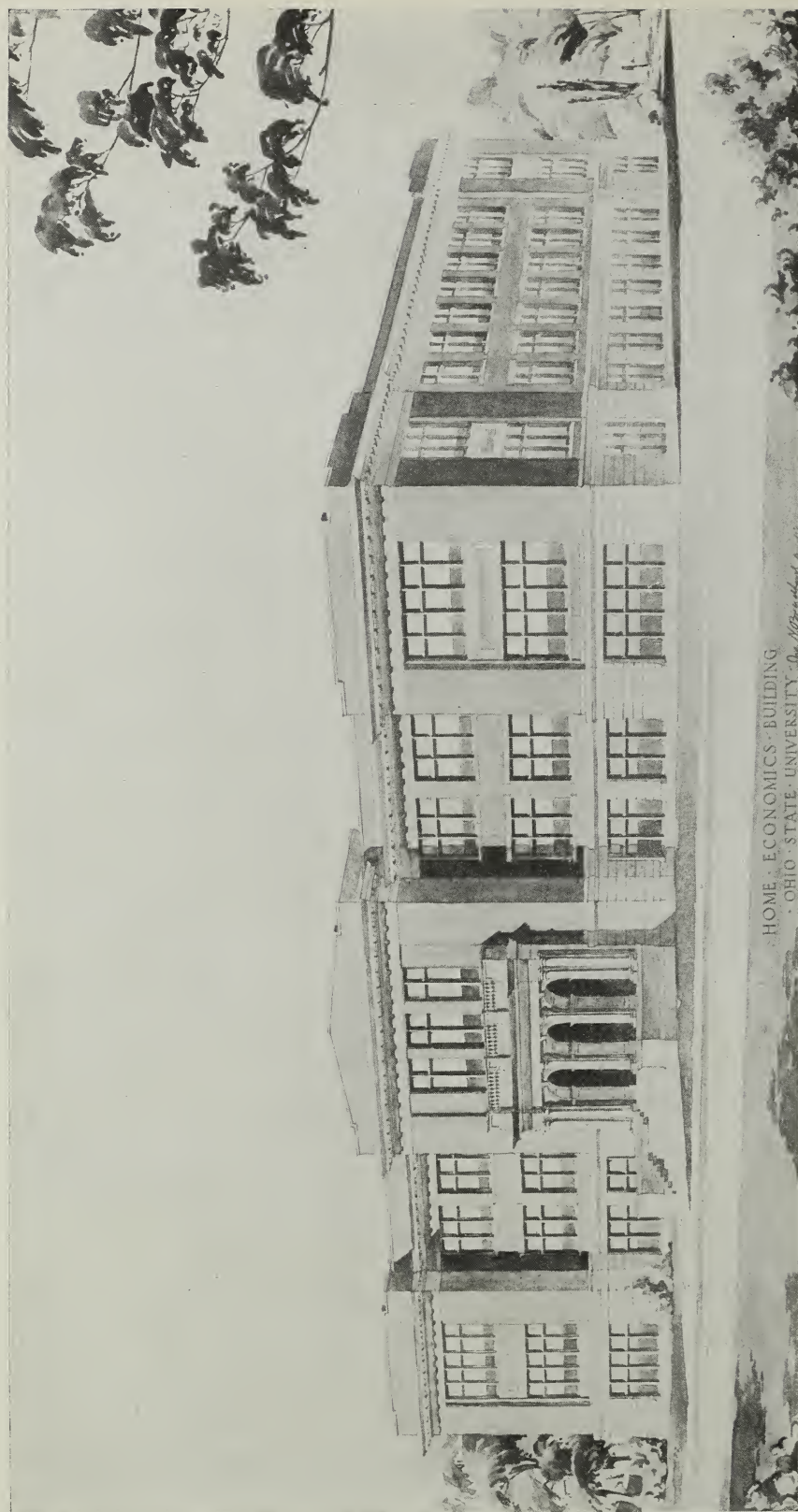
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Contents

	Page
FRONTISPIECE—	
New Home Economics Building	238
THE LIFE WORTH WHILE—	
Trell W. Yocum	239
COOPERATION FOR AMERICAN FARMERS	
Myron T. Herrick	243
PIONEER DAYS ON THE CATTLE TRAIL—	
Clifford T. Conklin	247
SCHOOL CREDIT FOR CLUB WORK—	
O. H. Benson	250
PLANT DISEASES ON THE FARM—	
Wilmer G. Stover	256
JAUNTS WITH THE JUDGING SQUAD—	
Clayton H. Elliott	259
ARTICLES FARM PAPERS WANT—	
Clyde A. Waugh	262
OHIO STATE WINS AT APPLE JUDGING CONTEST	266
EDITORIALS	267
SECONDARY AGRICULTURE	271
WHAT THE BUSY GRADS ARE DOING....	273
LIVESTOCK ITEMS	276
CURRENT LITERATURE	278
NEWS NOTES	279





This Woman's Instruction Building Is in Process of Construction Near the Forestry Building on Neil Ave.

THE AGRICULTURAL STUDENT

Vol. XXII.

OHIO STATE UNIVERSITY, COLUMBUS, DECEMBER, 1915

No. 4

THE LIFE WORTH WHILE

An Appreciation of the Late Joseph E. Wing.

TRELL W. YOCUM, Associate Editor, The Ohio Farmer

IT was a cold night in late November. Outside the wind moaned dismally as it whirled the sleet and snow around the corners of the cozy bungalow perched high above the Chagrin river. But the blustery weather was in sharp contrast to the contentment that held sway within. A fire of crackling hickory logs lent cheerfulness to the scene, and in the glow around the huge fireplace sat four figures. The host was a former steel man who had lived in the nearby city; two of the guests were well-to-do farmers of Geauga County, while the third guest was the writer. The evening was spent in story telling, during which the three elder men related some of their experiences. By the time the fire had burned low the conversation had turned to things agricultural, and this eventually led to a discussion of Joe Wing. All expressed regret that he should pass on when he had reached the age of greatest usefulness and various opinions were ventured as to his greatest contribution to agriculture. One avered that it was the influence he had in introducing alfalfa east of the Mississippi; another that it was the prominence he had given sheep raising; a third that it was his farm building and home planting plans, and so on. Finally the host arose and, standing with his back to the fireplace, said: "All of you are partially right but to my mind Joe Wing gave us a greater thing than any of those you

have mentioned. He taught us that there is something more to farming than the mere production of crops, livestock and the erection of convenient buildings. He taught us that farm life means more than existence—that it means living unselfishly, contented and happily—that country life in itself comprises those things. The spirit of inspiration was in everything he wrote or said, and I consider that gift more vital to permanent agriculture than all the rest." Will the years to come prove the truth of this statement?

Joseph E. Wing was born on a farm in New York state in 1861. When but a youngster the family moved to Ohio, where a farm was selected on the edge of Darby Plains, Mechanicsburg, Ohio. On this place of less than two hundred acres he spent his boyhood. When a young man he went west, where he spent some time on a ranch, and while there he became interested in alfalfa raising. Thinking that it would grow in Ohio, he sent some of the seed to his father, who planted it in the limestone soil in the garden, and when Joe returned for a visit he asked concerning the plants. His father replied that alfalfa would not grow in this climate, but Joe found that the plants had been eaten off by the chickens. He chose one of the hardy plants, and after watering, placed a barrel over it. Three weeks later, before leaving for the ranch, he took his father into the gar-

den and, much to the old gentleman's surprise, discovered that the alfalfa had grown through the top of the barrel. This convinced Joe Wing of the possibilities for alfalfa in Ohio, and when later he returned to help his father care for the farm, he began his experiments. It is a long, interesting story, filled with disappointments, trials, failures and final success; of his father's death and the responsibilities shifted to his shoulders; of the first tiny patch of alfalfa and the small flock of lambs, down to the present when over one hundred acres of the legume and more than two thousand lambs bear testimony of the work he and his two brothers accomplished.

Aside from those in the immediate family, Mr. Wing did not receive much encouragement in his early experiments with alfalfa. Many in the home community scoffed at the idea of a barn that would hold one hundred tons of hay and said that it was an impossibility to raise sufficient hay on Woodland Farm to feed one thousand head of lambs. But time proved the value of his contentions, and the name of "Alfalfa Joe" became one of endearment rather than of scorn. As a tribute to the man who was friend and neighbor, the town of Mechanicsburg laid aside its business on the afternoon of his funeral, and as the cortege passed along the street leading to the cemetery, four hundred bareheaded school children stood in line.

Mr. Wing led a busy life. During the last few years of the nineteenth century, while in the midst of alfalfa experiments, he began to write occasionally for farm papers, his first articles appearing in *The Ohio Farmer*. He found it to his liking, and each succeeding year devoted more time to it, until at last he held a place unique in agricultural journalism. His writing

had wide appeal because he wrote in a direct, simple manner that all could understand; but perhaps the greatest reason of his success was that he put Joe Wing, heart and soul, into every word. His personality was in his work and if ever there was a lovable personality it was Joe Wing's. Considerable of his time was given to lecturing and government research work, which took him to all parts of the country, to Europe several times, and to South America four years ago. It was on one of his trips in tropical regions that he contracted pellagra, which ultimately resulted in his death. At the time of his death he was editorial correspondent for the *Breeder's Gazette*, which position he had held for a number of years.

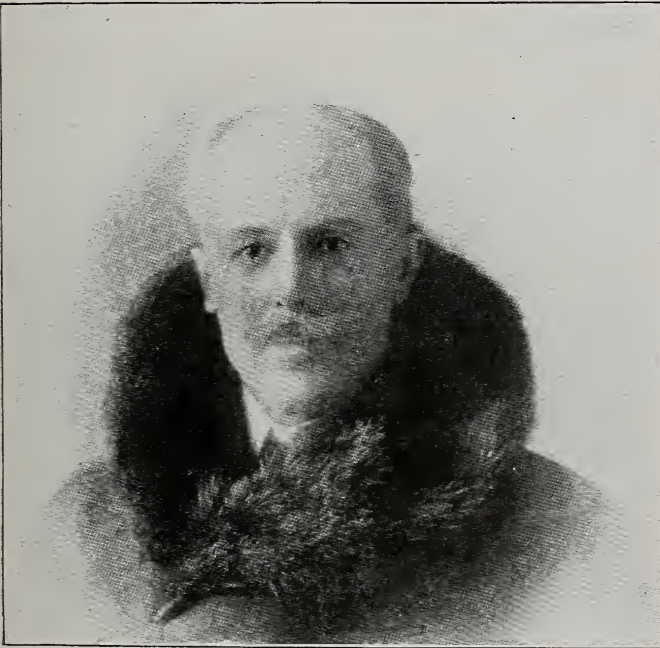
While Mr. Wing derived considerable pleasure from public life, he enjoyed his home life even more. He found nothing more pleasant than to return home to his wife and three boys. The drives he took with them in summer and the talks before the fireplace in winter were most cherished. To his wife he gave the credit for his success, and no one more justly deserves it than she. In every new project he consulted her, and no one entered with more whole-souled enthusiasm than Mrs. Wing. At the time of my last visit with him shortly before his death, he said: "In all the world there is no woman as wonderful as Florence—I owe her everything."

His relationship with his boys was that of a companion. Most heartily did he enter into their work and play, and in the plans he left for them to carry out they have to guide them the memory of a father who lived the ideals that he taught.

Mr. Wing's first house was planned and built by himself. In this comfortable little dwelling the three boys were

born, and his first agricultural writing was done. Later he planned, in every detail, the present home, which is remarkable for its beauty and convenience. Pleasantly located in the edge of a woodland, it fits harmoniously into the landscape. He was a lover of flowers and shrubbery and the plantings around this home were planned with an object of beauty for winter as well as for summer. If there were no other things left to the memory of Joe Wing

he talked. With the instinct that guides a child I came to love him because he understood and loved children. As the years passed my trips to his home grew more frequent and in our walks and talks together I was drawn more closely to him. During the last few years our association was even more intimate, largely due to the fact that it was through his influence that I became more than passingly interested in agricultural journalism. Many pleasant and



"So let us live soberly, calmly, without attempting too much, without too much weariness for that is wrong; living more simple lives than we have been wont; living closer to the heart of the good God; a little kinder; a little more patient; a little less filled with useless ambition."

than his home and family, one could well judge the man.

There has been a time in each one's life when it seemed that the outer boundaries of the world extended but a few miles beyond the place called home. Among the writer's most pleasant memories of that period are the trips taken to Woodland Farm, which was but a short walk from home. At that time I came to know a kindly man, tall of stature, soft of voice and with gentle gray eyes that twinkled and smiled as

profitable hours did I spend with him; he in the capacity of teacher and I as pupil. It is impossible to estimate what his sincere, patient advice has meant to me; I only know that I shall ever owe to his memory a debt of gratitude as vast as the humanities which he taught.

Often it has been asked, "How did Mr. Wing write his human interest type of articles?" He has told me that never was one a studied production. The material for a certain article was

revolved in his mind before hand. "Then," as he described the sensation, "comes the sitting down and putting on paper with a full heart and hot haste. Of course the machinery of expression comes to be largely a habit, and there may be corrections to be made in cold blood; yet if I can judge others by myself, I will declare that nearly all of the living, throbbing words that have ever been written have been penned in the original nearly or just as they stand today."

It was in such moods that often I have seen him dash off four or five thousand words at one sitting. All of his articles were written with one ideal in mind—that of service to his fellow men.

In a brief sketch of this kind it is an impossibility to give more than a fleeting glimpse of the man, and it would be folly for one to place an estimate upon the far-reaching character of the work accomplished; time, alone can do that. As for his characteristics, however, we can truthfully say that he was ever an apostle of clean living. He was honest, cheerful, kind and gentle. He was always anxious to give a helping hand or an encouraging word to those in need. His idea of rightful living is well summed in the following words that he wrote a few months ago:

"So let us live soberly, calmly, without attempting too much, without too much weariness, for that is wrong; living more simple lives than we have been wont; living closer to the heart of the good God; a little kinder, a little more patient; a little less filled with useless ambitions. Then maybe the nights will not be so filled with weariness; the tears will more seldom come,

and stronger, purer, finer, holier will be the joy that cometh with the morning. Let us have divine faith. The new day will unfold; little children will blossom around us with their innocence and smiles. Then let us say in reassurance, 'As it was in the beginning, is now and ever will be, world without end. Amen!'"

A little over a month before he died I had my last talk with Mr. Wing, and he then seemed to realize that his time was limited. Together we walked through the woodland pasture and across the fields of alfalfa, and at that time he told me much of his intimate life. He spoke of his unpublished manuscripts and asked that I take care of them. These manuscripts some day will appear in book form. They contain articles written in a personal vein, similar to his introduction to "Alfalfa in America," and he considered these among the best he had ever written. On our return he stopped to rest under a row of apple trees and, gazing out across the acres of green alfalfa, which represented the realization of one of his dreams, he cried, "Look at those fields!" A smile lit up his face and pausing to look toward his home, nestling among the trees, he whispered, "Life, my boy, has held some mighty sweet things for me—and it has been worth while."

Such was Joe Wing's conception of life—that it was worth the while. Such was the text from which he lectured and wrote his messages of good cheer, contentment, gentleness and love. What greater heritage than this can any man leave to posterity?

COOPERATION FOR THE AMERICAN FARMER

Necessary Legal Enactments Which Will Extend Credit Facilities

MYRON T. HERRICK, Cleveland, Ohio

SOME of the financial difficulties which beset the American farmers are due to their inability to get money, for long terms, on reasonable rates, as mortgage loans. Finding the solution for this problem is one of the important objects of the rural credit movement; it has been attacked in various ways, and as yet no satisfactory solution has been reached.

The solution of the land-credit problem cannot, however, remove all the difficulties that surround agriculture. The chief trouble with American agriculture is lack of organization. Aside from some notable exceptions in fruit and dairy regions, the farmers are not organized either industrially, commercially or financially. They have no collective purchasing, marketing or banking systems of their own. Each farmer relies upon himself for what he buys, sells or borrows. As a consequence there are wastages and losses that seriously affect both producer and consumer, while the individual farmer is left at the mercy of any unconscientious person who wishes to exploit the exigency of his affairs. Particularly is this so wherever he has urgent need of money, as proved by the instances of extortionate interest rates exacted from farmers. The American farmers are unexcelled in capacity, intelligence and education, and they possess in fertile lands, natural resources, personal qualifications, material conditions, and in all other respects everything that makes for agricultural prosperity, except organization. Moreover, they are the richest farmers in the world; their wealth in the aggregate and their combined earning power are almost beyond comparison.

American farmers own perhaps fifty billion dollars worth of property, and this year raised fifteen billion dollars worth of products. Nevertheless they remain unorganized and allow this stupendous wealth and income, upon which the very existence of the nation depend, to lie scattered for all who wish to pick a profit from. Practically no animal or vegetable product reaches the market without some unnecessary sum subtracted from the producer's or added at the consumer's end of the deal, and the proceeds that are finally returned to the farmer are usually placed in some commercial bank to be used in industries other than agriculture. Since organization is the only thing American farmers lack, it is this shortcoming that may logically be assigned as the cause of their troubles and distresses, their complaints against bankers and merchants, and their demands upon government for state aid. Unorganized farmers always have been and always will be victimized and made the prey of their own necessities. But organized farmers are able to take care of themselves, and this would surely be the case with American farmers, because they own and produce more than enough to make them absolutely independent and self-sustaining if they would only utilize it.

The farmers in the United States ought to be organized from the plains to tidewater; but if they should attempt to do so they would encounter legal obstacles, since the laws have not been framed with a view to agricultural organization. The only ways by which two or more persons can unite for an economic object are the partner-

ship, the corporation and the association. A partnership is not intended for a numerous and fluctuating membership, and so is of little use for farmers. A corporation is a joint stock company with a capital stock that is fixed by the charter, paid in at the start, and voted by the stockholders according to their shares, but owned by the company itself. As Kent, the great jurist, said, a corporation may be formed without a body to be kicked or a soul to be damned. Its prime purpose is the employment of capital and labor for paying dividends to investors. Manifestly it is not intended for use where the capitalists, laborers and investors are identical persons, as would be the case with organized farmers.

An association is a voluntary union of persons under a plan that preserves the equality and personal responsibility of members. Usually a member has only one vote, and this cannot be cast by proxy. The liability assumed by members may be limited, unlimited or contributory. Shares may or may not be issued. If issued, they are simply certificates of deposit on which the credits may be withdrawn upon notice by the holders. So the fund thus accumulated differs from the capital stock of a corporation in that it is variable and is owned not by the association but by the contributing members. The shares may be paid in installments. Consequently, while a corporation cannot begin without money, an association can begin practically without a cent. It is because no money need be put up at the start and because all money put in is withdrawable, that an association is more attractive than a corporation to small investors. Moreover, the personal responsibility of the members and their direct participation in the management make the association peculiarly adaptable for

those mutual relations and practices that constitute what is called co-operation.

For these reasons the association is the best form of organization for farmers. There is no kind of business or finance that could not be conducted through an association, provided the members resided close enough to its headquarters to take part in its affairs, but legislators have not yet fully realized this fact. The association has been legalized for savings banking, life insurance, the building and loan idea, and for a few other purposes; and in every instance it has proved entirely safe and wonderfully effective. The world would be all the better if the associational form and practices were more extensively adopted for economic objects; but, generally speaking, the association has been relegated in the United States to religious, eleemosynary, educational, thrift and non-profit uses. Nearly every state (it is true) has a law on co-operative associations or societies, but the majority of these laws were framed on the postulate that the association can not be used for profit-making, and that co-operation is a benevolent or altruistic means for encouraging brotherly love among poor and incompetent persons.

This wholly wrong idea has been written into the recently enacted laws on the so-called credit unions or co-operative credit associations in Massachusetts, New York, North Carolina, Oregon, the Philippine Islands, Rhode Island, South Carolina, Texas, Utah and Wisconsin. The error is responsible for the tax exemptions, limitation of dividends and the various restrictions that have made those concerns worthless for farmers. Owing to these misconceptions about co-operation and to the failure to grasp the fact that co-operation works best through the association, the pro-

gress of agricultural organization has been retarded in spite of all the efforts that have been made for it during the past five years. A co-operative association may be defined as a voluntary union of persons for utilizing their collective energies or resources, or a part of them, under their own management in some economic enterprise carried on upon their common account with a view to their mutual and individual benefit. A co-operative bank is an association with full banking powers that confines its credit facilities to members.

It would be well for the states to recast their laws on co-operation and to enact new laws for economic associations and associational banks. Co-operation exists in such great variety that its definition is exceedingly difficult, so the word and its derivatives might be excluded from the statutes, except in the titles. Their absence would occasion no harm, because the practice of co-operation is automatic in a properly formed association. There is no European law that can serve as a model. We shall have to create anew. The American laws should provide for all forms of associations and permit their use for any kind of business or finance, banking included. Moreover, the Sherman act should be amended so as to permit combinations for agriculture, small industries and the like. This is especially necessary for farmers, because agricultural organization depends upon the formation of systems of interrelated associations. But in all other respects the laws should be free of class legislation, special privilege and tax exemptions, and should also be available for all. The workman, tradesman and small industrial is as much in need of co-operation as the farmer. I submit the following program:

An amendment of the national bank-

ing act so as to permit a national bank that confines its credit facilities to members to be organized as an association without capital stock.

An amendment of the banking act of each state so as to permit any kind of bank that confines its credit facilities to members to be organized as an association without capital stock.

An enabling and regulatory law by the nation and by each state legalizing for economic associations whatever is lawful for corporations.

A clause in such laws to permit combination among farmers' associations and associational banks, among associations organized for selling food and household supplies to members, and among associations organized by artisans for buying on their common account the materials needed in their work, or for selling their products.

Legislation along these lines is all that is necessary for co-operation. After it had once been enacted, farmers, tradespeople, small producers and small consumers would here and there avail themselves of it. Their success would encourage others; and then gradually, but with ever increasing speed, co-operation would spread in town and country throughout the land, just as was the case in Germany, Italy, France and elsewhere after the laws on associations were put on the statute books. If societies or boards of earnest propagandists were formed to lend a hand, they could materially help the good work along. But it should always be borne in mind that co-operation rests upon the individual initiative and mutual self help of the persons to be benefited, and that charity, state aid or extraneous assistance of any sort would impair its effect. The fact should also be kept in mind that the agricultural associations should combine. Detached and isolated agricul-

tural associations could be only partly successful. The farmers ought to form great decentralized systems of interrelated national, departmental, state, regional and local associations.

The growth, however, should be not from the top downward, but from the ground, laterally and upward. Nothing should be forced or artificially hastened. The development should be based on local, rural co-operative banks. The first step towards agricultural organization is the formation of these basic units. We all know what these wonderful little concerns are, so there is no need of discussing details here. They may adopt any of the associational forms. The investigation and study that I have made lead me, however, to favor the Raffeisen society. A Raffeisen society localizes its operations to a small area, confines membership to mutual acquaintances and imposes unlimited lia-

bility. It does not issue shares nor distribute dividends. Its aim is economy rather than gain. It limits profit-taking to its actual necessities and carries net earnings to an indivisible reserve. This reserve thus slowly accumulated takes the place of the capital stock and guaranty fund of a corporation, protects members from liabilities, assures the financial standing of the association, and makes it a permanent institution in the neighborhood. This type of associational bank is the best ever devised for stabilizing the rural population, for vitalizing the spirit of co-operation and for enabling farmers to utilize their credit and other resources or their agricultural purposes. In my opinion the closer rural organization adheres to the principles and practices of Raffeisen, the more effective and lasting it will be.



PIONEER DAYS ON THE CATTLE TRAIL

Early Stories of Livestock Development in the Scioto Valley

CLIFFORD T. CONKLIN, '16, Ohio State University

NO tale of fiction abounds in more stirring episodes, direr privations or entertaining romance than the story woven about the Scioto valley farmers and their efforts to drive beef cattle to the Atlantic seaboard. The first decade of the past century found the scattered settlers of the Ohio valley doing fairly well, for, in addition to their plan of self-sufficing agriculture, they found a market for their surplus products in the newly arrived immigrants. But as the country became more thickly settled, production of crops increased in unusually large amounts, and the pioneer found himself with an abundance of food substances and no market.

Consequently the practice of floating grain, meat and flour down the Ohio and Mississippi rivers to New Orleans became quite popular, although the market was always better for flour than for the other products. To float down the river was to those danger-courting sons of the soil comparatively a simple matter; but the return journey of nearly 1000 miles through desolate wilderness was attended with extreme hardship and great mortality. However, the trade flourished until after the close of the war of 1812, when the supply so far exceeded the demand that the business was automatically reduced because of no profits.

During the rise and fall of the New Orleans trade the farmers on the rich bottom lands of the Scioto valley were handicapped, for their soil was not adapted to wheat. But most of these settlers were from the South branch of the Potomac in Virginia, where cattle feeding had long been followed. As a result they naturally turned to the pro-

duction of beef, although they believed it would be impossible to market the cattle in the East.

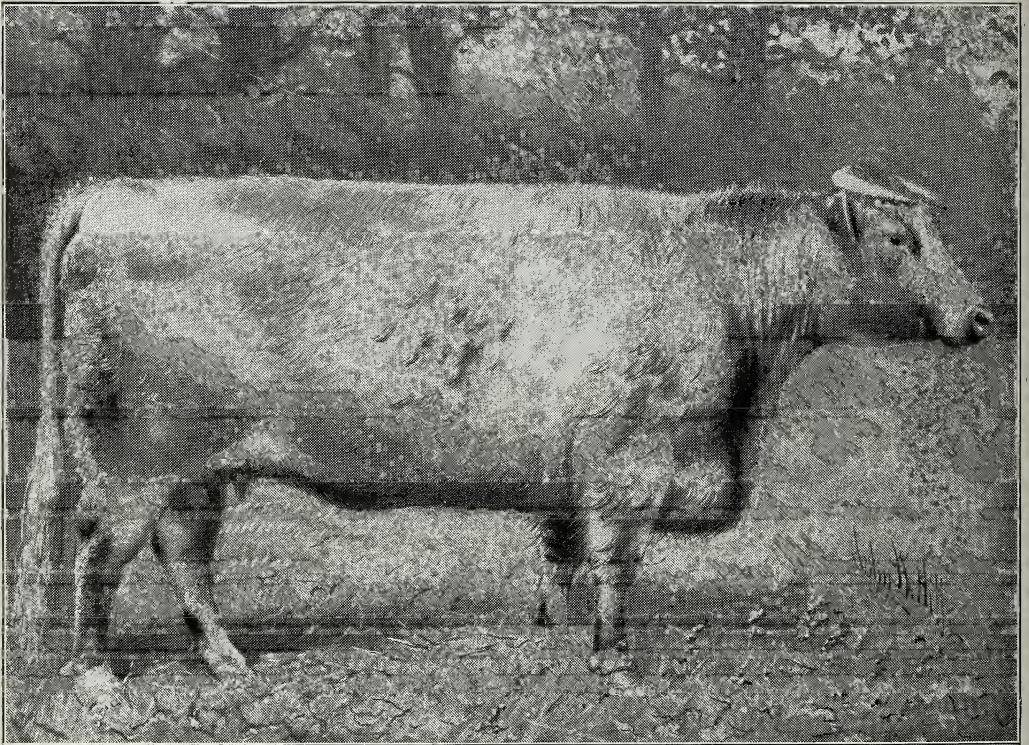
Among the few who entertained hopes of establishing an eastern trade was George Renick, an enterprising and wealthy merchant, living near Chillicothe, who at once resolved to drive some cattle East. Consequently, in the winter of 1804 he fed a lot of cattle and the next spring sent them to Baltimore. There is apparently no record of the route followed by him, but in all probability he followed Zane's Trace through Lancaster, Zanesville, Cambridge, Wheeling and on to Baltimore, as this was the only road east from Chillicothe. The first attempt was crowned with success, and the business slowly grew until about 1816, when the overproduction of wheat checked the flour trade with New Orleans, and the cattle business was given an unusual incentive for growth.

The intense interest which the Scioto valley stockmen took in their cattle is manifest in accounts of their introducing the best stock from Kentucky in 1800, where it had come from Virginia and Maryland. Although this new blood was of English descent, it was known as Patton stock. According to statements made by William Renick, son of George Renick, the Patton cattle, which were raised by Felix and George Renick, were slow maturing beasts of unusual size. They are not considered maturely "ripe" until five years of age, and were seldom marketed before they became four years of age. Unfortunately the early feeder was placed in the predicament where to market at four years meant an animal unfinished,

according to their standards, and to wait until five years of age meant entirely too heavy a beast to stand the journey. It was expected that these animals would dress from 1300 to 1500 pounds, and not infrequently these weights were exceeded. There is record of one of Renick's steers which, owing to lameness, was taken from the drove, having furnished the beef for

Longhorn fell into disrepute and was nick-named "Red horses." The Shorthorn, on the other hand, became very popular, although there was not enough of their blood introduced at that time to make any appreciable difference in the stock.

About 1832 to 1836 the large number of Durhams and Shorthorns imported awakened an unusual interest



An Early Type of Shorthorn in Ohio.

the barbecue at Chillicothe in celebration of the opening of the Ohio canal, and "weighed 2272 pounds, dressed, after hanging on the hooks for sixteen hours."

About 1817 three Shorthorn and two Longhorn bulls were imported from England. The Longhorn was at once popular with the stockmen, but after killing a few of the stock the meat was pronounced very poor, and the

in improved cattle in Ohio. In fact, it can be conservatively said that from that period and location emanated one of the greatest improvements in the live stock of the Buckeye State.

The plan most generally followed for preparing these cattle for the market consisted in selecting the best three-year-olds and placing them with four-year-olds in March and April. During these two months they were fed from

ten to twenty bushels of corn, after which they were grazed through the summer and fall in the very best manner. During the next four to five months, through the winter and spring, they were fed all the corn they would eat, usually considering half a bushel as a full feed. An effort was made to have all of these cattle on the eastern market by the first of July. In fact, very few Ohio cattle arrived in the East except between April 1 and August 1.

Later the practice became general of marketing the cattle at about three years of age, but this did not meet with the approval of the veterans of the trade, who maintained that it was impossible to produce high-class beef under four years of age. It is obvious that these good men never dined on the tender and juicy cuts of a prime baby beef, nor sold their stock where the market was as discriminating in favor of the younger generation as it is today.

As the Middle West developed the

industry was modified by driving in feeder stock from Indiana and Illinois to be fattened on Ohio corn and grass and then sent eastward. This broke the long journey and was profitable for the Ohio farmer on his high-priced grain-producing land.

Of course the rumbling of the locomotive sounded the death-knell for the cattle-driving business. The overland journey reduced the flesh about 100 pounds on each beast, whereas the railroad could save a greater part of this loss. Furthermore, the cattle could be marketed at all seasons of the year, which meant a more uniform distribution on the eastern market throughout the year. In addition, the stock arrived in better condition, so it only seems obvious that the industry should thus change. With the passing of the cattle drover, Ohio loses a character as unique and distinctive as the cowboy of the far West—a character that braved every danger of the trail and forest. His work is done; he has played his part in the development of our state.



SCHOOL CREDIT FOR CLUB WORK

How Vocational Training in Agriculture Develops Home-Making

O. H. BENSON, U. S. Department of Agriculture Washington, D. C.

FOR a number of years the state colleges of agriculture have been promoting, in a very definite way, a system of extension education, and most of them have had an extension service or a department of extension education, whose business it has been to formulate systems, methods, agencies and organizations for the purpose of taking to the farmers, farmers' wives, and the boys and girls of the state, the benefits of the college of agriculture, experiment station, the findings of laboratory work and, in general, to translate the theories of text-books and educators of these institutions into terms of common practice.

All of these activities of the college of agriculture have been devoted to agriculture and home-economic education almost entirely, the purpose being fundamentally economic; i. e., to increase the productivity of the soil, raise the common level of men, beast and machine efficiency, and convey to the rural and village home the standards of efficiency so essential to the success and welfare of every community.

Until recently it has not occurred to our educators that it is just as possible for the universities, normal schools, high schools and rural schools to have their extension service and, by a well-planned and organized system, carry from these institutions to the people at large, by means of itinerant teachers, demonstrations, field meetings, business demonstrations, lectures, movable schools and the like, all of the benefits formerly available only to those who would come after it and enroll in the institution for a definite period.

It is just as easy to extend music,

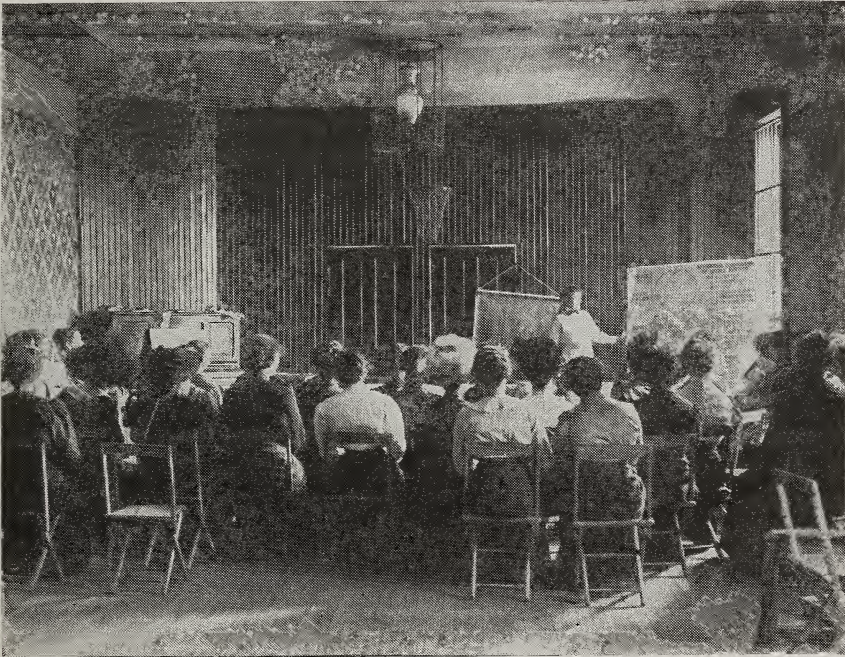
art, literature instruction and their values to the non-resident patrons of an institution, as it is to teach these subjects to those in the classroom, but, of course, it requires different methods, different agencies, and a thorough appreciation of the need, not only of the people who are to receive the extension instruction, but of the institution which is to extend it and thus vitalize its work and make it a more expressive servant of the people of the present day and generation.

We are specifically concerned with a type of education that definitely concerns, not only the agricultural college, but the rural and village schools as well. All who have considered seriously and in terms of life itself, the educational problems of recent years, are agreed that no school can properly serve the people, or perform its proper functions by simply confining its activities to within the four walls of the schoolroom, the laboratory or the classroom. The institutions today that are giving notable service, and that are looked upon as worthy of emulation, are the institutions which have learned that the school district or the state is its campus, that the people, both resident and non-resident, constitute its student body, and that the efficiency of an institution is now to be measured by its ability not only to train leaders from within the institution, but to train leaders from without and lift all the people to a higher level. The entire patronizing community, be it local, state or national in its area, should be affected.

Personally, I have not worried a great deal about getting school credit

for this home work. As a matter of fact, the best possible credit that a boy or girl may receive from club work is the education, experience, health and conservation value, together with the blessings of the out-of-doors, and the net profit on investment. It is my opinion that these credits are sufficient, as far as the boys and girls are concerned, but I believe that it will be worth while for the school to express itself in a tan-

all with the home; that the fact that the parents did not visit the school and that they expressed so little definite interest in the school and its activities was due to neglect on the part of parents and the home, and this has led them to ask why this neglect and apparent indifference existed. Our teachers too often forgot the fact that the home is not the servant of the school, but the school the servant of the home.



Demonstration Given By an Itinerant Teacher.

gible way in connection with this work. If the school can offer substantial credit or recognition in this type of extension work, it will do the school and the school curriculum more good than it will the home work and the boys and girls engaged in it.

The Home and the School.

For many years we have heard the cry for a greater and more sympathetic co-operation between the home and the school. Some of our teachers have taken the viewpoint that the fault was

Our educational institutions exist in the community because there are homes, and children in them; then, surely, it is the function of the school and the teacher to first seek the home.

If the school and the teacher will extend school values to the homes, farms, backyards and kitchens, by means of club project work, whether it is by means of corn, poultry or canning projects, it will be an easy matter to bridge the gulf now existing between the two institutions; and when the school has

thus taken the necessary step, it will not be difficult to bring the parents and people into the school, first by way of expressed interest and inquiry, and later by personal visits, helpful service and definite sympathy and co-operation.

The teacher who waits for the home to come to the school first, before the work of co-operation is started, is the teacher who will be disappointed. If there is no other reason for the creation of the boys' and girls' club work than merely furnishing an agency for the building up of a co-operative spirit and condition of helpfulness and understanding between the school and the home, it will serve the community and is worth all that it costs in money, time and leadership.

Boys' and Girls' Club Work.

Boys' and girls' club work is an organized and definite form of extension work in agriculture and home economics, a "back-to-the-home" movement, designed to offer not only vocational guidance, but vocational training in the business of agriculture and home making.

The boys and girls in the local clubs have their monthly or bi-monthly meetings, in which they discuss the problems of the growing crops, or the management of the poultry, pig, baby-beef, home-canning work, garment making, etc. They elect their own officers, transact their own business, develop within this organization definite co-operation and community values which will promise a great deal for community life in the future.

A great many people are constantly asking the question, "Why put the 'club' into this home project work?" You might as well ask the questions, "Why put the church into religion? Why put the state and national teachers' associations into education? Why put three horses on the same eveners,

instead of one?" All of this is for the sake of efficiency, to prevent scattering, and to prevent the adoption of attic methods in our teaching farm and home values to children.

Team work is the thing that counts in all of the enterprises of life. The armies of Europe, now see-sawing back and forth, are losing or winning battles based largely upon their ability to do team work—and back of it all are years of definite and early training in co-operative effort.

We have notable examples all over America today of failures due to a lack of early training in co-operative effort. There are today co-operative elevators, canneries, creameries and other enterprises which have been reduced to mere buildings, with windows nailed down, weeds surrounding them, the business dead, because the farmers who constituted the membership of the co-operative institution had never learned the language of co-operation in early youth. The fact that there is written above the door "The Farmers' Co-operative Creamery" does not mean that it has been co-operative at all.

Plainly, then, it is the function of the public school, together with these extension workers, to train our boys and girls in a way that will make co-operators, in spirit and in practice, as well as in name. I am personally as much interested in the proper training of our boys and girls in co-operative effort as I am in teaching them how to grow larger yields of corn, or to make a greater profit on pork production.

The Club Project Cycle.

Every member who enrolls in one of these club projects signs an enrollment card and thereby agrees to not only enter, but to stay in the work and finish the job, covering a period of from six to ten months in all of the club or home projects.

After they have thus entered they are organized into a local club or group; arrangements are made for regular meetings, in which they participate as officers, entertainers, speakers and so forth. During the entire cropping season a system of carefully prepared follow-up instructions are mailed to them, a little at a time, from the state office, by the state leader in charge of club work. These instructions cover not only the selection of seed, planting, preparation and management of the plot, but the care and management of

individual plot; not in the parlor, but out in the field, barnyard, garden or kitchen, where he may stand in council with the future business man, farmer or coming home builder.

Our observations, in traveling over the states of the Union, have been that the boys' and girls' club work has been one of the few factors which have given definite form to, and is one of our most effective extension agencies for the teaching of agriculture. No school conducting class work in agriculture can afford to be without this type of work



A Start in Vocational Training.

the surplus or otherwise waste product of their club plot. Coupled with this, we have exhibits and club festivals, in which play contests and recreational opportunities are properly given and directed. Then, again, for the winter months, some very excellent lessons are furnished, showing how to correlate the club project with the activities of the classroom and schools. During the summer months, in addition to the printed instructions, club members are visited by local leaders, county superintendents, county agents, etc., upon their

as a carrying medium from classroom to the home and field of promising practice. I hope the time will come when every teacher of agriculture and home economics, as well as every writer on text-books on these subjects, will recognize that the teaching profession needs specific suggestions, not only on how to teach the work in the classroom, but how to carry the work of the classroom into practice, by means of extension methods and agencies. In my judgment, these subjects cannot possibly be taught efficiently without such recognition.

List of Projects.**Field, Farm, Fruit, Garden Projects:**

- 1 acre corn project;
- $\frac{1}{8}$ acre potato project;
- 1 acre sugar beet or mangel project;
- 1-10 acre garden project;
- Square rod market garden project;
- 1 acre alfalfa project;
- 12 tree apple club project;
- 4 year rotation project;
- 1-10 acre tomato project.

Home Demonstration Projects:

- 3 to 6-month canning and marketing project;
- 3 month mother-daughter canning project;
- 10-piece garment making project;
- Back-yard garden project;
- Boys' and girls' home canning project;
- Plot of wheat and 10 loaves of bread project.

Animal Husbandry Projects:

- Pork and chop production project;
- Poultry project:
 - a. Hatching and rearing project;
 - b. Egg-laying and marketing project;
- Beef and chop production project;
- Dairy club project.

Special Club Projects:

- Home management project;
- Farm management project;
- Farm and home handicraft project;
- 3-hive bee project;
- Youth achievement project.

Basis of Award.

Requirements The requirements for all clubs are practically the same, namely, every member is required to attend meetings, follow instructions and faithfully manage at least his acreage or project units, outlined in No. 1 under "Basis of Award," as a minimum. There is no limit to the size of the plot nor the amount of work undertaken. The member must keep a record of ob-

servations, cost, receipts and make an exhibit of his products at the time and place designated by state and local leaders.

Corn Club.

- 1. Yield per acre (1 acre)..... 30%
- 2. Profit on investment..... 30
- 3. Exhibit of ten acres..... 20
- 4. Written story and crop report. 20

Total score.....100%

Potato Club.

- 1. Yield per $\frac{1}{4}$ acre..... 30%
- 2. Profit on investment..... 30
- 3. Exhibit of 25 lbs. seed potatoes 20
- 4. Written story and report record 20

Total score.....100%

Requirements. Members of this club are required to grow at least a part of the feed required for the raising of the pig or hogs, preferably one acre of either corn, alfalfa, cowpeas, rape or other suitable feed, and to raise during the season at least one pure-bred hog.

- 1. Yield of crop and rate of gain of pork 20%
- 2. Net profit of crop and pork. ... 20
- 3. Exhibit of crop products and pig 20
- 4. Per cent of feed for hogs produced at home..... 20
- 5. Crop records and story of work 20

Total score.....100%

Dairy Club.

Requirements. Club members are required to care for one dairy cow for a period of not less than four months; to make butter fat tests and keep food records for a period of not less than four months. The record should cover feeding, weight of milk and butter fat produced, as well as test of the milk.

- 1 Feeding records..... 20%
- 2. Care of cow..... 20

3. Testing records..... 20
4. Rate of gain butter fat..... 20
5. Story and written records..... 20

Total score.....100%

You must remember that the function, not only of the boys' and girls' club work, but the function of the school, is to reinforce and render more efficient the most important institution in American life, namely, the home. Only so far as we are able to reinforce this home, help it to develop socially, economically and spiritually, and strengthen it in its domestic unity, will we be able to understand the spirit of

the old song, "Home, Sweet Home."

The home, after all, is the foundation of all the superstructure in American life.

With the automobile, the moving picture shows, and other new and rapid transit interests of the todays, we will need to speed up considerably in our work of sending the boys and girls back to the home; otherwise, the impressions they get of the home, its activities, interests and enterprises will not be the sacred impressions that now linger upon the minds and hearts of men and women to comfort, sustain and pilot them through the wiles and trials of modern life.



Dobbs

PLANT DISEASES ON THE FARM

How Their Control Will Prevent Enormous Losses in Farm Crops

WILMER G. STOVER, Department of Botany, Ohio State University

ONE of the most remarkable features of American life is the well-organized and systematic attempt to increase the output of the American farm. The tiller of the soil is taught by the numerous agencies of education to raise more live stock and to feed a large part of his crops on the farm, to apply the fertilizer his soil requires, to grow leguminous crops as part of his system of rotation, and other principles of the gospel of good farming.

As the country becomes more and more densely settled and the areas under tillage more united, as the same crops are grown in the same region year after year, and as the facilities for exchange increase and seeds and plants are brought into the community from the ends of the earth, under these conditions of more intensive farming, pests that prey upon our cultivated plants also increase in variety, number and extent of damage. It is said that the American farmer, as a rule, is extremely wasteful. If this is true, one of the principal forms of waste consists in permitting preventable, or partly preventable, diseases to destroy so large a percentage of what he has with so much labor produced, and thus to offset, in part at least, his progress in other directions.

Aside from insects, the most serious and widespread losses are due to minute plants, bacteria and fungi, which secure their nourishment wholly or in part, from the host. Our ordinary plants possess a green coloring matter, chlorophyll, which enables them to manufacture their organic food. The most significant fact about the bacteria and fungi is the absence of chlorophyll.

Being unable to make their food, they must obtain it from living plants or animals, or from dead organic material, and are, then, either parasites or saprophytes. Most parasites, fortunately, are so specialized that they can attack only certain species or groups of closely related species of hosts. In securing their food, they injure the host in such a way as to interfere with its normal work, growth, vigor and productivity. Such a condition we call disease.

The losses due to these parasites, as estimated by various writers, are frequently appalling. Woods believes that they extract a toll, on the average, of not less than ten per cent of the total of our principal crops. Orton states that a tax of hundreds of millions of dollars is levied annually by the cereal rusts and other troubles of farm crops.

Here are some specific figures presented by men who have made a special study of certain diseases over a wide area: Smut of oats, \$10,000,000; stinking smut of wheat, \$11,000,000; loose smut of wheat, \$3,000,000; loose smut of barley, \$2,000,000; leaf blights of potato, \$36,000,000; peach leaf curl, \$3,000,000; apple scab, \$47,000,000; wheat rust, \$20,000,000.

This list, which totals an immense sum, yet includes comparatively few of the serious diseases which afflict our crops, gives some idea of the entire annual loss suffered by the American farmer and indirectly by the city man as well. And when we consider that if it were not for the three diseases of wheat mentioned above, the annual value of that one crop would be enhanced by nearly \$35,000,000, without any additional expenditure of time or

labor, the vital importance of the careful study of plant diseases will become apparent. Herein is indicated one method of increasing the output of the farm.

Reduction of the amount produced is not the only loss. Peaches, sound when packed, may, in process of shipment, succumb so utterly to an earlier infection of brown rot as to be unsalable upon reaching their market. In places where the soil and climate are especially suited to certain crops, an entire community may devote itself to growing them. Dangerous diseases may develop to such an extent that the industry must be abandoned, unless a remedy can be found. When trees are defoliated, or partly so, by leaf parasites, not only is the current crop lost or reduced, but the succeeding crop will also suffer. If severe attacks occur for several successive seasons the trees themselves may die from starvation.

Sometimes the effect of the presence of a parasite, remarkable as it may seem, is exactly the reverse of destructive. The cells are stimulated to excessive growth and division, so that striking malformations of various sorts may result. Crown gall of fruit trees and other plants, club root of cabbage, peach leaf curl and plum bladders are examples of this type of pathological effects.

Probably the phase of this subject of greatest interest to the practical grower is that of disease control. During the last thirty years many extensive investigations have been conducted along this line at large expense, and remarkable progress has been made. While effective, and at the same time practicable, methods have not as yet been worked out for all diseases, others can be practically eliminated by simple and inexpensive means.

It has been demonstrated frequently that spraying for certain diseases is an exceedingly profitable operation. Dickens of Kansas estimates the average net profit of spraying the apple orchard to be nearly \$100 per acre, and nearly twice this amount if the fruit is properly graded and marketed. According to Gossard of the Ohio Agricultural Experiment Station, \$3 per tree is a low net profit from spraying the apple at a maximum cost of 50 cents per tree. Howard of Missouri claims a net profit in 1914 of \$300 to \$400 per acre in some orchards at a total cost of less than \$23 per acre. Pierce in California, in a typical experiment in spraying for leaf curl, obtained an average of 20 pounds of peaches from unsprayed trees, while the sprayed trees yielded an average of 80 pounds. In an experiment on the control of the late blight of the potato conducted in Vermont over a period of twenty years, it was shown that the average yield for the entire twenty years of the plots sprayed with Bordeaux was 268 bushels per acre, while that of the unsprayed fields was only 163 bushels, giving a gain per acre of 105 bushels, or 64 per cent. In none of the years when the blight was present did the percentage of gain fall below 26 per cent, while when the blight was severe, the gain was as high as 200 per cent. Even in years when there was no blight in the unsprayed plots, the Bordeaux afforded such a stimulus to growth that the sprayed plants gave a superior yield of 18 per cent to 30 per cent.

Seed treatment is another method of controlling plant diseases. The smuts of the small cereals may be prevented by the hot-water method, and certain of them by treating with formalin, which is much more easily applied. Potato diseases also may be controlled by

disinfecting the tubers to be planted with formalin or with corrosive sublimate.

Crops should not be planted in soils known to harbor its fungous or bacterial enemies. The soil in small areas, as in the seed bed and in greenhouses may be sterilized by the use of heat or of formalin. A system of crop rotation, in which unrelated plants are successively grown in the different fields, tends to prevent the development of a dangerous number of parasitic fungi in the soil.

It is well known that the varieties of cultivated plants may differ greatly in their susceptibility to disease, so that it is often possible to select varieties which are not apt to suffer severe injury from diseases prevalent in the community. One of the most promising lines of future advance in the control of disease is the development of resistant strains. This has already been accomplished in several notable instances. Orton has developed varieties of cotton, cowpea and watermelon so resistant to wilt as to produce a profitable crop on soil so badly infected that ordinary varieties invariably fail. Jones of Wisconsin has, by selection, produced several strains of cabbage strongly resistant to "yellows," which was threatening an extensive industry in the Badger state. Work is now being conducted along this line for a number of other crops with considerable prospects of success.

The most effective method of control for certain diseases consists in pruning out the diseased portions. Success depends upon the thoroughness with which the work is done and

upon its being done at the right time. A knowledge of the life history of the pathogen is valuable in this connection. In black knot of the plum, for instance, the spores which originate the spring infection mature as early as January and are shed soon after maturity. Pruning should therefore be completed at an earlier period.

All diseased material thus removed should be burned at once. Similarly, sanitary measures should be adopted for the care of all waste and refuse which is likely to contain diseased plant remains. Discarded cabbage plants with the black rot, for instance, should not be thrown upon the manure heap, to be hauled out and scattered over soil which may be free of the disease. Sanitation in regard to the plants on the farm, in the orchard and in the market garden is being increasingly recognized as of critical importance to the grower and his neighbors.

No one method of disease control, however valuable in certain cases, is sufficient for all diseases, and the method employed must be adapted to the character of the host or the parts attacked and to the nature of the parasite.

Finally, it should be especially noted that the control of some of our most serious diseases is a community problem, to be solved only by community co-operation. The individual may follow all the latest rules of science, but disease will spread from his neighbor's neglected orchard or field and his efforts will be of no avail. Co-operation will help to solve these as well as many of the other problems of rural life.

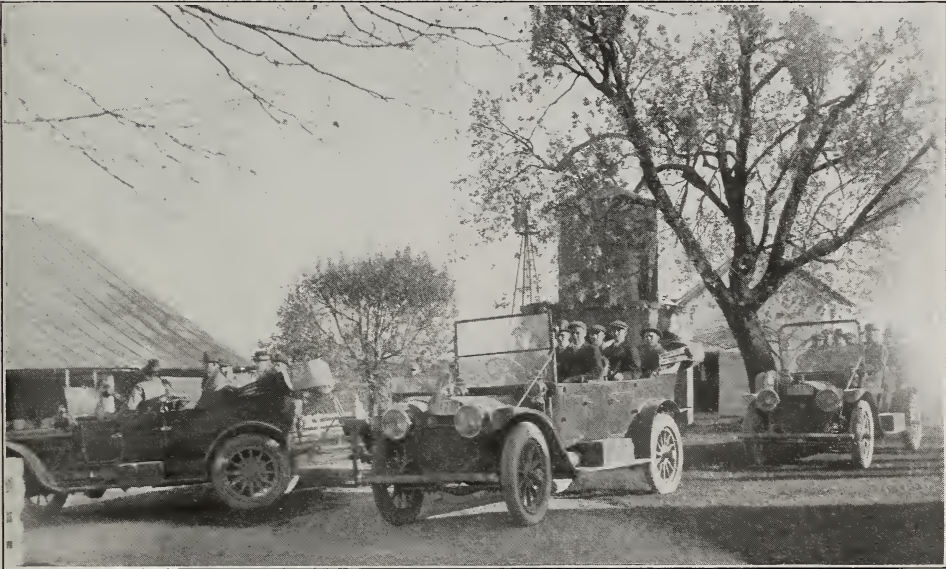
JAUNTS WITH THE JUDGING SQUAD

Glimpses of Extensive Livestock Farming Found in Southern Ohio

CLAYTON H. ELLIOTT, '16, Ohio State University

"I HAVE learned more about the agriculture of Ohio, in addition to a thorough training in livestock judging, by taking the trips scheduled for the advanced judging squad, than I could by reading all the books written on farming in the past ten years," said a member of the class as he stepped from an interurban car on the return from a judging jaunt.

seeking. They open up the untold beauties of farming, the satisfaction of profitable production and the fascinations of nature. There is also a distinct linking of the perfect type with the individuals that grace the show ring. The student rubs elbows with the breeder and knocks off the corners of personal preference and bias. In short, it is a finishing; yet it is a be-



With Packards Livestock Judging Becomes a Diplomatic Function.

"Yes, the judging trips represent the sap of animal husbandry information boiled down and sugared off," said his fellow student believer as they both edged through a crowd for a High street car.

* * * * *

After four years of college work, with practically few opportunities offered to really examine the economic agriculture except those taken for individual benefit, the trips present the ideals for which the student has been

ginning of associations with herdsmen and flockmasters.

* * * * *

Headed toward the plains of Madison, Fayette and Highland Counties, when the sun had just peeped from its eastern moorings, three Packards with a party of twenty students on one occasion could have been seen speeding briskly out of Columbus. Out of reach of traffic cops and with a straight, hard limestone road ahead, the drivers would speed up the cars to 35 miles an

hour, and, even at that, a chauffeur would unconsciously find himself advancing the throttle a few notches, especially when cars, small in size and popular in name, could be seen hugging the pike a mile or two ahead. There came the increased hum of the motor, a honk from the klaxon, yells from the tonneau of the Packard, and the little car was a speck in the rear.

But that was not all. Broad plains filled with diagonally paralleled rows of shocked corn were constantly silhouetted against the horizon. Grazing herds of cattle and sheep paused from their munching of the bluegrass and raised their heads high in the air as the procession passed by. Percheron horses kicked up their heels, while droves of fattening hogs scurried into the cornstalks at the appearance of the first machine. There indeed was "the land of Canaan" for the admirer of live stock. "That's a great country," said Professor Donald S. Kays, as he turned from biting the limestone dust and glanced at the spacious forty acre fields bearing the bounties of harvest. "Give me 200 acres of that land and I'll"—but the whir of the motor drowned his voice.

Arriving at the farm of the Haglers, near Washington Court House, Fayette County, the party at once began to place rings of "doddies." Then for a diversion three Belgian fillies, blue ribbon winners, were trotted out. By this time the class had become acclimated and were grazing about the 1800 acre Hagler Farm, with its feeding barns, silos and droves of livestock. Land touched with a few marks of an ancient glacier stretched forth. Practically as far as the eye reached, the fields of bluegrass pasture and shocked corn could be attributed to the Hagler farm. Two hundred and seventy-five head of cattle, all munching the lucious pas-

tures and frightened only a bit at the appearance of the autos in the grazing grounds, filled the eye. Then, in the background, were the batteries of silos and feeding sheds, where the feeders would be finished in a few months.

"Do you feed any hogs?" ventured "Red" Bolander to Mr. Hagler, as they were gazing over the extensive plant.

"Yes, a few," he replied, pointing over across the road, where 750 Yorkshires were finishing their noon ration. "We expect to market them on the greater part of our four-hundred acre corn crop."

The large farm has been in possession of the Hagler family for a number of years. They feed a large number of cattle every year, fatten many swine, yet get into the ringside game and carry off the blue ribbons with the "doddies" and the Belgian horses at the state fair. They hire their laboring men by the year, furnishing them with tenant houses and food supplies. "We have no trouble in keeping hired help," said Mr. Hagler. "In fact, they stay with us year after year."

On the return trip from Washington Court House, the farm of Sam Clever, the veteran Poland China breeder and fancier, was visited. Here the class had an opportunity to see many individuals of a favorite breed of hogs in that community.

* * * * *

On another trip taken into Highland County, about eighty miles southwest of Columbus, the farms and sales stable of Dr. Brown, at Hillsboro, were included. Here three rings of Belgian horses were placed before going to Mr. Brown's farm, a few miles east of the town.

While the land in this section was quite rolling, as compared with the plains of Madison and Fayette Counties, yet the type of agriculture prac-

ticed was adaptable to that region and, indeed, might prove a good lesson to those farmers whose land is sometimes determined by several dimensions. In short, if many of the hillside farms in southern Ohio could be made as profitable as Dr. Brown's, a new agricultural area might dawn. The land is extremely hilly, so much so that cultivation would be almost impossible. But there are a few low lying fields that yield bountiful crops, and the hills can well pay for their use in bluegrass. Bluegrass—that's it. That's what put the gloss on the doddies of the Brown farm.

Dr. Brown keeps a good breeding herd of over 40 cows—all sleek backed "doddies," and of course has nearly a hundred head of cattle on the farm at various times. From these he carefully selects the kind that "fill the eye of the judge" for international competition. Picture to yourself a more beautiful sight than a background of high, undulating hills, cut up with a winding stream and shadowed in the afternoon sun, affording lucious pastures for the black cattle. Angus cattle are in their glory on these hills; they were calm, silent and viewed the approaching body of students with interest. Individuals of all sizes and ages could be picked out even from the aged cow, the dam of sixteen calves, attributed by "Mis-

ssissippi" Bacot as "the mammy of the 'hole pack," to fall calves jumping lively about with their older companions. Hills covered to the very top with thick, dense bluegrass, a natural mattress for the land, are uncommon in many sections, but here nature glories in her productions. But is it any wonder, for the fertility is carefully returned to the pastures year after year. Dr. Brown values his land at only \$85 per acre, yet it is returning over 10 percent on the investment.

Just a jaunt of a mile and one-half from the interurban station at Wagram, a station ten miles east of Columbus, brought the class to the Palmer sheep farm, where rings of Southdowns and Shropshires were placed. While Mr. Palmer breeds the kind that carries off the ribbons at the fairs in Ohio with his sheep, he also gives considerable attention to feeding livestock, both cattle and sheep, and directs the work on several farms.

The final trip of the year was taken by the team composed of Joseph B. Markey, Clifford T. Conklin, Robert Hammond, Leon M. Evans and Raymond M. Carr to Purdue University, where rings of livestock were placed. The horse farm of J. Crouch & Son was also visited.



ARTICLES FARM PAPERS WANT

How a Contributor Can Increase His Income by Correct Copy.

CLYDE A. WAUGH, Soil Improvement Committee, Chicago, Illinois

THE orthodox way to write an article under the above caption would be to state, "There are many types of articles desired by farm papers," and from that point to go on with classification and sub-classifications. From the various groups the reader would gather that farm papers desire manuscripts on every subject pertinent to agriculture. They do, but there are articles and articles.

In nine cases out of ten an editor buys articles because he does not have the time to prepare the material himself. He is the man who decides whether a story goes to press or whether a rejection slip goes to the writer. Thus, if you would write for a farm paper, write to serve its editor's needs and to conserve his time.

Articles are brought to save editors' time and energy, hence the article submitted ready for the typesetter will stand more chance of acceptance than an article of equal merit, submitted in poor mechanical condition. Typewritten articles are preferred because typewritten copy is legible. Always double or triple space when preparing material, as space between lines permits of easy editing. Never roll a manuscript. Use regular typewriter size paper. It fits files and is easily handled. If you haven't a typewriter, use pen and ink, always double spacing. Paragraph and punctuate. This seems elementary, but many college graduates write without a paragraph in a thousand words. Watch spelling. Make certain of facts and figures and add amounts correctly. Perhaps the editor will see to such details. He will, but if he has to use, say three hours of valuable time preparing

your article for the typesetter, he will not be liberal with his check. With many papers your article would be returned because it is sometimes easier to rewrite a manuscript than to edit it.

In preparing a manuscript, place your name and address in the upper left-hand corner of the first page. In the upper right-hand corner write the number of words—save the editor estimating the amount of space the article will occupy. Space the subject in the center of the page. Number the pages and write on one side of a sheet of paper only—otherwise the article will have to be copied before going to the press room. Make but two folds and mail in a No. 10 or a No. 11 envelope. Never roll. Enclose a self-addressed stamped envelope for the return of the article should it prove unavailable. The return postage may seem a small item, but the postage on unavailable articles has become such an item with many publications that they refuse to return material unless return postage is enclosed. Address articles to the editorial department of publications and not to individuals. After the above rules are followed, do not write in a week or so asking when the article will appear, for you may rest assured that it will either appear in print in due course or be returned to you. The average editor is so busy that he does not have the time to write you regarding your manuscript. Most farm papers pay the first of the month following publication, and the man who is always writing for a check does not find himself the most favored contributor.

Any deviation from the foregoing may not cause your article to be re-

jected, but most assuredly they will handicap your work as a farm paper contributor. It is true that some of our best known writers use a pencil and scratch paper, but that fact does not make their material more acceptable. Generally, their articles contain some inherent quality—some message that makes the editor forget the hours he is compelled to spend in doing work which every contributor should do for himself.

What type of articles do farm papers want is best determined by reading the papers. Close study of our various agricultural publications will show that material eagerly desired by one sheet has no place in another. Each editor is a law unto himself. His ideals are expressed in his journal. With one publication marketing may be a hobby; with another, orcharding. Each follows certain broad lines, but at the same time caters to varied constituencies. The circulation of some papers is national; some restricted to a group of states; some to a single state; some to market gardeners; some to fruit growers; others to Holstein cattle, and so on through the list of 400 odd agricultural publications in the United States. A national publication does not want stories purely local in value, nor does a Holstein publication want an article on Jerseys. Papers want high percentage articles, preferably the kind that will interest 99 per cent of their readers.

Timeliness is another important factor. Most papers are well under way several days before the date of publication, while many weeklies are on the press a full week ahead of the date of issue. Whenever you have reports of shows, meetings, advance notices or articles on a timely topic, do not delay, but if possible get them in the editor's hands at least a month ahead of time if

possible. Farm papers go to press on schedule and wait for no man.

There are two times when an article is of greatest value. For instance, an article on fall plowing should be in the editor's hands August 1, to insure publication before it is time to plow in fall, and again in March 1st when the farmer, facing a spring's rush, wishes he had several acres ready for the harrow. A seed corn article is timely just before planting and at husking time.

Editors do not want articles on blue sky or composed of hot air. Have something to tell, omit the introduction, boil down the body of the story and cut out the conclusion. Chances are that after you have done all this the editor will cut down your story one-half to a third. Farm papers have no trouble in filling space; most of the editor's time is taken in editing down stories to find room for them. At advertiser's rates a single line of space in farm papers is worth 20 cents to \$4. Space worth that much money is too valuable to waste with useless words.

Have a sense of proportion. Because a certain subject has more interest for you than any other topic in the world, it is no sign that is of paramount importance to from 50,000 to 1,000,000 others. We remember the man who used 6000 words in reporting a New York fruit growers' meeting. His write-up was cut down to 300 words. We also know of a man who used 3000 words to answer a simple dairying question which should have been handled in 100 words. It is an unusual article that is worth more than 1400 words, and in fact, some editors set the limit at 1000 words. Better write several short articles than attempt to cover every angle of cattle feeding, for instance, in one article.

A farm paper seldom cares for in-

terviews. If it wants an article from a prominent farmer, it goes direct to the farmer. The same principle applies to the reviewing of bulletins; it does its own reviewing.

In writing for farm papers, a nose for news is almost as essential as in newspaper work. A few trials with various types of articles made after papers have been studied with care will go far in helping to develop this nose for news; teach you what material is worth your while and what is not.

Almost invariably the average editor is anxious to obtain personal experience stories written in the first person. If you have had an unusual sheep-feeding experience, for instance, the average editor would rather have a story of that experience than ten columns of theory on the subject.

Here is where many young writers make mistakes. Instead of telling just how he made a success with the home orchard, he is of the opinion that it is better to tell how the orchard should be managed. Instead of the home economics student telling how she prepared a dinner for threshers on an hour's notice, she will write on the calorific value of various foods, of course never failing to use the chemical terms, which not one reader in one hundred understands.

Many young writers fail because they

have no background. It is next to impossible for a man who has never been around horses to write as convincing an article on colt feeding (even though he has had every animal husbandry course offered), as it is for the man who has grown up around horses. Right here it may be well to deviate from the subject long enough to state that three months on a farm is worth as much to any city boy going into agricultural work as a year in school. If the average city boy taking agriculture realized how much he handicaps himself by not doing actual farm laboratory work, and how he automatically makes himself unavailable for some lines of agricultural work, he would not fail to spend his summers on the farm. Right now the writer knows of five instances where the sole barrier between five agricultural graduates and \$2000 positions is the lack of some actual farm experience.

Writing for farm papers will add appreciable amounts to one's income. There are many county agents, farmers, college professors and students whose agricultural writings bring in from \$25 to \$1000 a year. In addition, having one's name appear over frequent articles in leading papers has a cash value to the breeder of purebred livestock, to the county agent, the institute speaker and to others in similar work, that can hardly be estimated.



MUST REVITALIZE COUNTRYSIDE SAYS PRES. WILSON

Church Must Be Made Social Center of Dwellers in Rural Communities.

THAT Christianity is the most vital thing in the world, and that its exponent, the church, especially in the country, should be the community center and participate in all legitimate activities of the community, were leading sentiments in the speech of President Woodrow Wilson at Memorial Hall, Friday night, December 10, before the closing session of the conference on church and country life.

"Our cities are tending to draw the vitality from the countryside," said the president. "There was a time when America was characteristically rural. But we are now called upon to revitalize the countryside. No longer ago than the time of my own father, pastors found their most vital work in the country churches. And, after all, the most vitalizing thing in the world is Christianity.

"The world has advanced in civilization by spiritual means. I was told when a youth that some of the old casualties reduced all sin to egotism. An egotist is a man who has gotten the whole perspective of life wrong. He conceives of himself as the center of affairs. So there are men who set up the principle of individual advantage as the doctrine of their life. Christianity is not important because it is conceptions of man and God, but because it is a vital body of conceptions, which can be translated into life. Except as Christianity changes and inspires life, it has failed of its mission. When I think of the rural church I

wonder how far it has vitalized the life of the community in which it exists.

"We have said a great deal about the schoolhouse as a social center. But I believe the most vital social center should be the church itself. The department of agriculture is trying to show farmers the easiest and best ways of marketing their crops. The church ought to lend its hand to that. Let the rural church find there is a spiritual brotherhood, and that the pastor and associates are interested in the welfare of all.

"It is one thing to make an organization, and another to fill it with life. I have been a member of one or two churches admirably organized that were accomplishing nothing.

"Legislation cannot save society," said the president. "Law is a record of achievement; it is not a process of regeneration. Christianity is the only force in the world that I have ever heard of that does actually transform life. All transforming influences are unselfish. All that I have said has been said before at this conference, no doubt. But I am proud of being an American because America was given birth by such conceptions as this. America is great in the world because she is the embodiment of unselfish citizenship, and that is what draws the other nations to her like a lodestone. A new light comes to the faces of all who arrive at these shores. God grant that it may always shine."



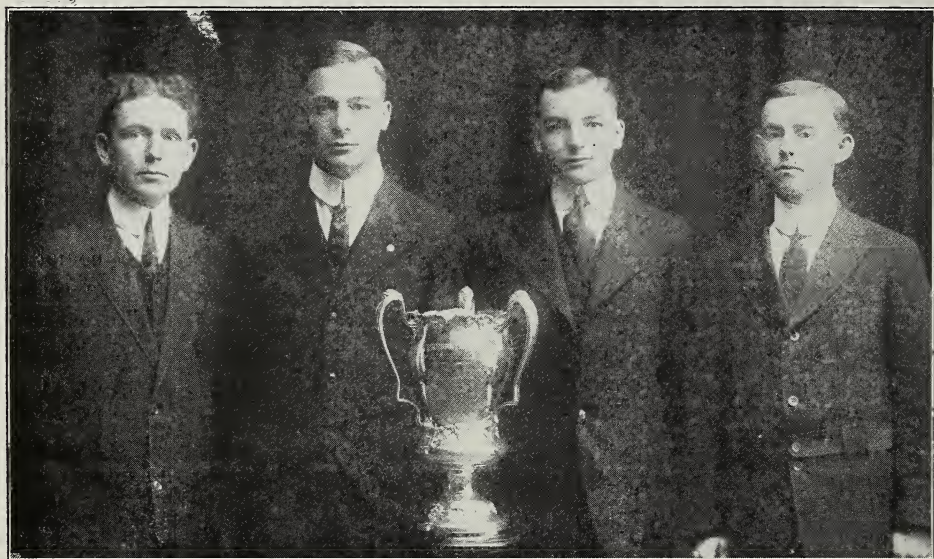
OHIO STATE WINS AT APPLE JUDGING CONTEST

"OHIO'S FIRST!" That was the expression whispered among the six other apple judging teams at the Eastern Fruit Judging Contest, held at Baltimore, Maryland, on December 19. All eyes were then turned upon Joel L. Foote, Cleveland; Brooks Drain, Bel-pre, and Howard N. Scarff, New Carlisle, who represented Ohio State in the contest. The big cup, three feet high, was then carried reluctantly from the New Jersey table to the Ohio boys.

placing were given a perfect score of 50 percent each.

This work continued under the direction of Professor Wendell Paddock and Williard H. Mosier, assistant in horticulture, until November 1, when the squad was cut to twelve men. This number was finally thinned to three men a few days before the big contest.

At the contest Ohio, West Virginia, Pennsylvania, New Jersey, Delaware, Maryland and Kentucky entered teams



Mosier, Coach; Foote, Scarff, Drain.

No, it wasn't luck, either. The real winning of the cup began at the first of the semester, when thirty students started to identify varieties. Every day from 3 o'clock in the afternoon until dusk the practice continued, commercial scoring and placing being added after several weeks. With the use of a score card sixty plates containing twenty-five well-known varieties were judged, and all substitutions carefully named. Identification and commercial

of three members each. All of the men scored the fruit individually. A West Virginia man had the highest score, Scarff of Ohio came second with .25 of a per cent lower than first, a New Jersey man third, and Drain of Ohio fourth.

The contest was held in connection with the Maryland Week celebration, an agricultural exposition conducted every year by that state. The contest will be held at Columbus next year in connection with an Ohio apple show,



OF
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COLUMBUS, OHIO, DECEMBER, 1915.

EDITORIAL

The country boy must be reached if the standards of the present day farmer are to be raised. The University is on the lookout for high-school students with good scholastic or athletic records, who are already wide-awake to their opportunities and possibilities. But the agricultural college is accomplishing its mission of educating the farmer by reaching the average farm boy and showing him what the farm holds in store for him.

In many communities the farmers are modern in both thought and practice, and it would make the average college graduate hustle to keep up, but other communities are living and raising their crops in the same way they did

many years ago. Boys developing under such conditions have just as good a right to a better training as the boys that are brought up under more favorable circumstances. So, while we are on the lookout for the ones who are taking advantage of their opportunities, let us not forget that we are accomplishing useful service by getting hold of the farm boy who has no local inducements toward better farming. Just a few words with a boy like that may awaken in him the desire to make the old farm his pride, to change the wornout and rundown fields into feeding places for paying crops, and to turn the scrub stock into high class animals.

The stock-judging contests are a means of getting the boys acquainted with live stock. They learn the differ-

ence between the good types and poor types of farm animals. This knowledge creates in them a desire for live stock and indirectly awakens a desire to learn all they possibly can about the successful production of feeds and the feeding of the particular kind of stock in which they may be interested. The boys on the farm will soon have a new understanding of what farming means, which will cause them to improve their farming methods. In other words, the desire to learn must be awakened before the education can come or will be of any value.

National preparedness is the congressional topic today. Many of our national leaders entertain the idea that we should **IMPROVED ROADS.** increase our army and navy, and that more munitions of war be prepared. What for? To defend the Sea of Darkness or the Pacific, or to invade the Old World, which now weeps in the agony of war?

It is perfectly right and proper that preparedness should be a topic of thought today, but instead of sinking millions into ocean bulwark that will be depreciated and out of date when such a need for them arises, more efficient inland traffic means should be established. Good roads are absolutely necessary for national service and universal co-operation. With the perfection of the automobile as a means for transportation, we have a national asset that outdoes the navy for defense, provided there is footing for its traffic.

Improved roads are the instrument of a country's prosperity. The farmer can market quicker and easier over a pavement, hence produce more and cheaper. This would diminish such fluctuations in markets as now exist and the relation of the producer and consumer would be placed on a firmer basis. Road

paving is rewarded with prosperity as well as preparedness; with national progress as well as defense.

Gifford Pinchot, chairman of the Commission on Church and Country Life, which held its conference at Columbus, December 8, 9 and 10, says. "I

THE COUNTRY CHURCH need make no argument to prove the importance of a sound and vigorous life in the country and country towns. The country feeds the city in more ways than one, and the integrity of the city life grows ever more closely related to the country and its product of healthy humanity and the necessities of healthy human life. More than one ancient civilization, including Rome itself, fell into decay because the natural wholesomeness of country life was no longer able to counteract the demoralization of the towns.

"We in America may be certain that the life in the country cannot be fine and strong unless it is strengthened by an active and efficient church. We know that the country church is not everywhere as vigorous and effective as we should like to see it."

We ascertain from this, then, that the country has a double duty: that of supplying the city with its temporal needs and leaders, and, in addition, working out its own problems, so that the present standards of country life can be maintained.

Possibly the greatest problem at the present time is the country church. We can catch some idea of the vastness of this problem, when we consider that nearly one-fourth of the churches are declining in membership, that on an average there is a church to every 285 persons, while there is but one minister to every 800 persons. Therefore the leadership exerted by the country min-

ister is seriously hampered and localized in but few places. The solution of the problem, it has been stated, will consist largely in arousing the people of their respective communities to a greater realization of the importance and possibilities of efficient churches.

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That the farm press is one of the greatest agencies for the advance of

THE AGRICULTURAL PRESS.

agricultural education is shown by a recent investigation by the United States Department of Agriculture, in which 71 per cent of the farmers, scattered over various states, declared the most benefit they received was from rural papers. Bulletins, farm institutes and demonstrational work was not regarded as yet influencing the work of farmers to any great extent.

The farm paper penetrates every home. Every member of the family finds within its pages that satisfying touch, that intimate influence which makes for greater desires in rural life; it keeps alive that love for the country, the longing for nature, for the truly great things in life. It stimulates that farmer to take greater interest in his business; he takes pride in his surroundings, his buildings and his crops.

The field of agricultural journalism may seem crowded at the present. Papers are springing up every day with a new and more specialized mission. Against this there is no criticism, for those that are worthy will live; those founded upon selfish motives will surely die. Yet this brings us nearer to the point. While agricultural papers may become too numerous, the field of agricultural writing will never be crowded. We shall seldom see such writers as Joe Wing. The ability to place life in words is attained by few, and to them there

is no glory too great. Through his writings Mr. Wing was able to extend his influence a thousand-fold.

However, agricultural writing, like other professions, undoubtedly requires patient study, practice and acquired style. This is probably attained by practice, yet the fundamentals of agricultural journalism could easily be taught in the college curriculum. It would at least start many a writer on the right path, which would lead to the development of careful, clear and educational expositions. Then the farm press would come into its own; it would have a source of material characterized by inspiring, instructional and entertaining features.

Since agricultural journalism plays such an important role in our system of rural education, and since it influences the farmer to see the better things in life, is there not a place for such a course in our own college curriculum.

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Often we hear, "Every college graduate should be a leader in something."

Especially does this duty and opportunity devolve upon the graduate of an agricultural

RURAL LEADERSHIP.

college. However, although we realize the importance of rural leadership, it might occur to us that we have not assumed any personal responsibility in this regard, and have neglected to develop the qualities of leadership that we may possess, but rather have relegated the whole matter to those whom we suppose are "natural born leaders." If we think only of leadership as the leading of great numbers of men in the accomplishment of a single, definite purpose, perhaps we may be justified in taking such a stand. On the other hand, even the least of us may possess many latent qualities which, if

only we might endeavor to find ourselves through the medium of unselfish service, become developed so that we, too, may play our part in that leadership that will build up a better rural life and reinforce the foundation of a better citizenship.

The conditions and characteristics of rural life offer some very peculiar problems of leadership. The various kinds of leadership needed in the country offer opportunities for many different types of men. Those who are good promoters of organized activities find their services in great demand at present, yet this type of leadership is only apparently more important than some of the less conspicuous forms.

Important, however, as organization, co-operation and association may be to rural life, we may well note the danger in the present tendency to organize the farmer as other groups of men are organized. We should remember that this plan has robbed the working man of the cities of his individualism and self-acting characteristics, and may in the end defeat its own purpose in rural life as well. If individualism is to be preserved at all, it must be in the rural district, where the conditions are such that the demands of life require considerable initiative of every one in the community, and from which the majority of our future leaders must come.

It is here that the man who can lead by the power of suggestion and example can be of great service. It has been said, "The greatest leader is he who can lead, yet seem to follow." It

is this type of leading that will develop men and at the same time bring about changes that will make life more worth while, as well as increase the production.

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That the agricultural college will play an important part in the readjustment of the country

THE COLLEGE AND RURAL LIFE. church was the opinion of nearly all the speakers at the Country Life and Church

conference held in Columbus, December 8, 9 and 10. Practically every speaker, from both North and South, made frequent references to the work of the colleges of agriculture in many of the states, showing how the extension work, how the demonstrational work and the teachings for better agriculture stimulates the work of the country church.

But this was not all. Many spoke of the desirability of a closer linking of the church with the college. They pointed out the foolishness of the old belief that the church must keep its hands off of purely material matters, that the sanctity of the church building was reduced by holding farm meetings in it, and advocated that the bars of denominationalism must be dropped if true cooperation was to prevail.

It is probable that a great change will come soon; not a radical bluster, not a sweeping substitution, but a gradual awakening to the possibilities that the colleges of agriculture offer to the new country life.





RAY RIFE, '17.

ONE of the pertinent subjects before the school authorities has been that of school credit for home work. Volumes have been written on the subject but no solution comes closer than that proposed in the article in this issue written by O. H. Benson of the United States Department of Agriculture. Mr. Benson is eminently qualified to discuss this subject, having had a wide experience in school affairs and also in his present position as national leader in boys' and girls' club work. We wish every teacher and supervisor in Ohio could have his vision of the proper sphere of the school.

We wish to extend a spécial invitation to the county and district superintendents of Ohio to use these columns. If any of your teachers, either in high or common schools, are doing commendable work in agriculture, give the teachers of Ohio the benefit through the columns of the secondary schools department. If you have had agricultural exhibits, send us photographs.

Some teacher or superintendent may inquire, "What is the effect of club work upon the so-called regular work of the school?" Miss Jessie Fields, when county superintendent of Clarin-

da County, Iowa, answered the question as follows: "In six years we have trebled the number completing the eighth grade examinations. We have six times as many attending high schools from the country."

Good Roads Lesson One

—Advantages of Good Roads

1. Discuss importance of transportation in the life of the nation, state and community, giving the different means of transportation.

2. Show importance attached to road building in the life of other nations by giving history of Roman road construction, etc.

3. Note that the last half century has been an era of railroad construction, while our wagon roads have been neglected. We have been building our great highways of commerce and travel, both state and nation, encouraging construction by heavy subsidies. The state and nation are now directing their attention to wagon roads.

4. Advantages of good roads:

(a) To the farmer—

1. They reduce the cost of marketing his product by reducing the expense of hauling.

2. They reduce the cost, at the farm, of the products which he buys by reducing the cost of hauling.

3. They enable him, in many cases, to market bulky products which could not be transported over a bad road.

4. They enable him to market his products when the highest prices can be secured.

5. They enable him to market his products when labor is cheapest, also when he, himself is not at his busiest season.

6. They give better social advantages on the farm by lessening the so-

cial isolation of farmers and communities.

7. They make possible better church advantages.

8. They make possible better school advantages.

9. They make possible better rural free delivery.

10. They make possible better grange attendance, rural lecture courses, better farmers' institutes, etc., and all other means of rural improvement.

11. They advance the price of land as a result of the other advantages.

(b) To the cities and villages—

1. City and country are brought into closer communication.

2. The markets are supplied more regularly.

3. Professional and expert advice is in greater demand, owing to the increased facilities for communication.

4. A more active market for goods is provided.

5. Better opportunities for pleasure trips are provided.

6. Less money is needed for moving the crops, if receipts of farm products are more evenly distributed during the year.

(c) The different parts of the state and nation are drawn closer together by good roads, especially in this motor-age. Community lines are broken down, greater co-operation is made possible, life economically, socially and intellectually is greatly stimulated. This means much in perpetuating the life of a nation.

Lesson Two.

Wilkinson's Agriculture gives four important factors to be considered in road construction, viz., location, drainage, foundation and surface. Discuss each of these.

(a) Earth roads—

1. Discuss practice of heaping loose earth, sod, etc., in the middle of the road.

2. Discuss value and method of proper grading.

3. Discuss proper drainage.

4. Discuss the use of the road drag. Note the road dragging law now in force in Ohio.

5. Describe the King drag or similar type.

6. Discuss how and when to drag.

(b) Improved or macadamized roads.

1. Note the marked advancement in the construction of improved roads. Experience has taught that the better constructed roads are more permanent and less expensive to maintain.

2. Describe methods of construction used with our earlier improved roads.

3. Describe modern methods of road construction, with many country roads constructed of concrete, concrete and brick, brick, waterbound macadam, stone macadam and macadamized.

4. Note that one of the pressing problems in many counties of Ohio is the question of road maintenance. As a result of faulty construction, heavy loads and lack of funds for road repair, many improved roads of the state are in very bad condition. Discuss remedies for these conditions.

Teachers should write the State Highway Department, Columbus, Ohio, for copies of the new traffic regulations recently prepared by the state highway commissioner.

Material for lessons on good roads can be secured from Bulletin of Agricultural Extension Department, Ohio State University. Also from bulletins of the State Highway Department, Columbus, Ohio.



WHAT THE BUSY GRADS ARE DOING

RALPH S. CHRISTEN, '17

William Bembower, '11, after traveling through China, Japan, the Philippines and Hawaii, has returned to the United States. Mr. Bembower has been doing industrial mission work in India. He expects to join the United States government expedition which goes to India to study the Indian "mango" next year. It is his intention, however, ultimately to return to industrial mission work, as there are some large and ambitious possibilities in it.

Frank Ruhlen, '96, is farming and dairying on a 170-acre farm near Plain City. He has developed a herd of Holstein cows which he is having tested for the Advanced Registry.

Paul C. Kitchin, '15, who has formerly been with the state highway testing laboratory, is now instructor in botany at the Michigan Agricultural College, Lansing.

Fenton R. Keep, ex-'15, was married to Miss Thora Skinner of Columbus in July. They are now living on Tarrymore Farm, near Dorset, Ohio.

Benjamin Repp, '14, is instructor in agriculture and manual training in the high school at Sylvania, Ohio.

Walter C. Kane, '07-'08, is state entomologist for New Hampshire and head of the entomology department of the agricultural college at Durham.

Ivan Steffy, '15, is located at Hartville, Ohio. He is running a dairy farm and breeding Holstein cattle.

Harry C. Hyatt, '11, is teaching agriculture in the Venice Polytechnic High School at Venice, Cal.

Herbert A. Wise, '13, is bacteriologist for the Polk Sanitary Milk Company of Indianapolis.

Berthold W. Anspen, '10, is instructor in floriculture and landscape gardening at the Maryland Agricultural College at College Park.

Henry J. Reinhard, '15, is assistant state orchard and nursery inspector for Iowa.

Harvey F. Johnson, '15, is connected with the New Lyme Institute at New Lyme, Ashtabula County.

Boyce E. Bradford, '15, is at Cambridge, Ohio, where he is teaching agriculture in the high school.

Firman E. Bear, '08, M. Sc. '10, has charge of the soils department of the University of West Virginia, Morgantown. After graduating from here in 1908, Mr. Bear was instructor in agricultural chemistry during the year 1908-1909; extension instructor in soils 1909-1910, and assistant professor of agricultural chemistry 1911-1913. He spent the summer of 1908 in the study of fertilizer control work and another at Cornell taking graduate work in chemistry. Additional graduate work in the chemistry of soils was taken at the University of Wisconsin in 1913-1914. He has also made a careful study of the soils of West Virginia in order to be able to make the courses in his department more valuable.

Herman A. Clark, '02, owns and operates an orchard at Saratoga, Cal.

Walter McCoy, '12, is a county adviser at Greensburg, Ind. He has now been there for two years and reports splendid success.

Perry V. Ewing, '11, is animal husbandman at the Georgia Agricultural Experiment Station.

Edgar M. Allen, '08, after graduating from here in agriculture, went to the University of Chicago and studied medicine, and is now a practicing physician in Chicago. Mr. Allen was a former instructor in the department of physiology. He also practiced medicine a short time at Pasadena, Cal., before going to Chicago.

Carl B. Abbott, ex-'00, is farming and raising live stock near Medina, O.

Herbert M. Barnes, ex-'15, is managing a farm at Paulding, Ohio.

Myron D. Miller, '13, is teaching agriculture in the high school at Bowling Green, Ohio.

Joseph Hale, '14, is bacteriologist and

chemist for the Canton and Akron Pure Milk Company, Akron.

Mark L. Nichols, '12, is farming at Bellevue, Ohio.

Dillon S. Myers, '14, is at the University of Kentucky, where he is assistant in the department of soils. His address is Lexington.

Otto E. Jennings, '03, is professor of paleobotany at the University of Pittsburgh.

Francis C. Marshall, '13, is farming near Beaverdam, Ohio.

Fred H. Herzer, '14, has charge of the creamery department of the University of Arkansas.

Douglas E. Pickens, '15, is farming near Levanna, Ohio.

Roy R. Buchanan, '14, agricultural instructor in the high school at Brown's Valley, Minn. He is also connected with the extension work in that community.

L. L. Rummell, '15, who was formerly editor of *The Agricultural Student*, was the successful applicant in the civil service examination held recently to fill the position of editor of publications at the Ohio Agricultural Experiment Station at Wooster.

George Livingston, '09, who was acting head of the department of agronomy last year, is now with the office of markets of the Department of agriculture, Washington, D. C. Mr. Livingston was instructor in field crops at Iowa State College in 1909-10, and the next year he was in the field crops service of the extension department of the Ohio State University. From 1911 to 1913 he was instructor in the department of agronomy, after which he was granted a leave of absence to take post-graduate work. Two semesters were spent at Cornell University and one at Halle-Wittenburg University in Germany, in investigating the subjects of crop improvement and crop breeding. "Field

"Crop Production," a text-book of his, is one of the Rural Text Book Series.

O. A. Jamison, '12, is connected with the dairy department of the University of Massachusetts at Amherst. He was formerly with the dairy department of the University of Maine.

V. A. Place, '12, county agent in Wabash County, Indiana, writes: "The weevil seems to have attacked every bin of stored grain in Wabash County. Hundreds of pounds of carbon bisulfide have been used, and during each day more requests for information on the treatment of the grain are made. In many cases the farmers wait until the grain gets too hot to save it before they think of the remedy."

B. A. Williams, '13, who was a former business manager of The Agricultural Student, has bought a farm of 216 acres near Ashtabula, Ohio. He is clearing it up and making it ready to grow crops. He will breed Jersey cattle and Chester White hogs.

Lawrence W. Adam, '15, was married to Miss Vada M. Lewis of Middleport, Ohio, on November 24. They will reside with the bride's parents until early spring, when they will occupy their new home on a farm near Middleport.

Byron E. Pontius, '14, who is in charge of the animal husbandry department in the State School of Agriculture, Alfred, New York, shows in a letter how an alumnus helps sing the praises of his alma mater:

"I am trying to boost Ohio State whenever the opportunity presents itself. Two young men from here were induced to enter Ohio State because I took the time to tell them of our great institution of learning. I have another man lined up to enter next fall. I might add that the school of agriculture here does not give a degree, and

the university is confined largely to arts, music, ceramics, theology and literary work. When we find we do not have what the students want, then I say Ohio State."

H. H. Beers, '15, is with the Salem, Ohio, Cow Testing Association.

Stanley P. Stowe, '08, is making a specialty of raising hothouse lambs at Leesburg, Ohio.

Howard Baker, '15, after spending the summer on his father's farm near Buckeye Lake, began working for the Goodyear Tire and Rubber Company, of Akron, on October 15.

Chester C. Engle, '08, is at Cornell University, where he is doing work on his Doctor's degree. He is also assistant in the department of soils.

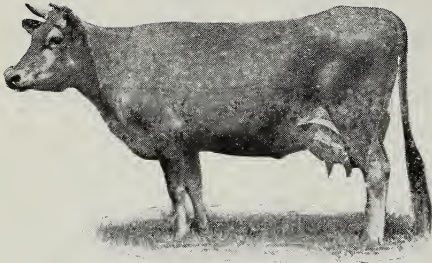
William H. Pew, '07, is professor and head of the animal husbandry department at Iowa State College at Ames. After graduating, Mr. Pew was instructor in animal husbandry in the New Hampshire State College, 1907-09. He then went to the Iowa State College, where he became assistant professor of animal husbandry. In 1910 he was made associate professor and in 1913 he was made head of the department.

Paul Gerlaugh, '13, is instructor in animal husbandry at Cornell University. He was an instructor at Penna State in 1914-15.

Harley C. Conover, '12, is farming at North Fairfield, Ohio.

A. C. Brookly, '12, who has been teaching high school in Minnesota, is now teaching in the high school at Marshall, Ind.

Frank S. Busby, '14, and Miss Coral Glick were married at the home of the bride's parents on November 18. They will be at home after January 1 at Amanda, Ohio.



**The Jersey, Lass 66 of Hood Farm, Maker
of the Highest Record for the
Breed of the Year.**

LIVESTOCK ITEMS

C. T. CONKLIN, '16.

J. B. MARKEY, '16.

The Holstein Friesian cow, Duchess Skylark Ormsby, 124514, has broken all records for fat production for all breeds, by producing in 365 consecutive days 27,761.7 pounds of milk, containing 1,205.9 pounds of butter fat. She began her test at the age of 5 years and 13 days. This new record holder was sired by Sir Ormsby Skylark 47010, and is out of Oakhurst Clothilde 106988. To Mr. R. B. Young, of Buffalo Center, N. Y., goes the distinction of having bred this phenomenal producer, that is now owned by John B. Irwin, of Minneapolis, Minn.

Duchess Skylark is an excellent example of breed type, combined with capaciousness. Her top line is straight and true, her rib arches out boldly, and her chest and barrel are both deep and large. Her udder, while hanging a little forward, is of good size, has large, well-placed teats, and has the characteristic veining so much sought after by the Holstein breeder.

* * *

Jean Duluth Pear, owned by Jean Duluth Farm, Duluth, Minn., has just completed her year's test with a record of over 700 pounds of butter fat (the exact figures are not yet available). An interesting feature is the fact that this

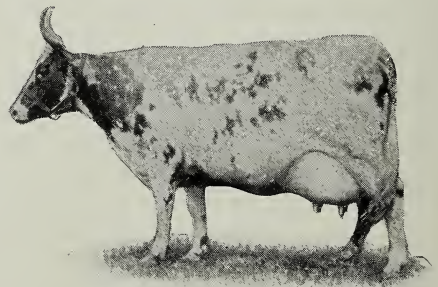
new queen of the Red Polls took the sceptre of power from her mother, Pear, who had a record of 603.6 pounds. It is reported that Jean Duluth Pear is an excellent specimen of dual purpose type, with a very desirable carcass conformation in addition to her ability at the pail.

* * *

Because the Chicago & Eastern Illinois railroad delayed the shipment of a few carloads of cattle and hogs, the Public Service Commission of Indiana ordered the railway to pay McGary & Blythe \$65.14 for shrinkage on the stock. This is an epoch-making decision in the history of live stock transportation, as it was formerly understood that a movement of 50 miles in 24 hours relieved the carrier of all responsibility from shrinkage. But 50 miles a day may be an unreasonably short distance to travel. It seems that the decision savors of good judgment and a square deal for the stockman.

* * *

Columbiana County has produced a two-year-old Jersey heifer, Lad's Lady Riotress Irene 279715, that has taken the breed record in the senior two-year-old class with 12,307.8 pounds of milk and 660.81 of butter fat. W. Whitney is the owner and breeder.



**The Ayrshire, Garclaugh Spottie, Maker of
the Highest Record for the Breed
of the Year.**



**The Guernsey, Murne Cowan, Former
World's Champion for Butterfat
Production.**

The American Jersey Cattle Club can well afford to make public the record of Sophie 19th of Hood Farm, who in six consecutive years has performed her functions as mother, and under six authenticated years' tests has produced 75,921 pounds of milk, containing 4,433 pounds of butter.

Rather unfortunately she has given birth to but one daughter, Tormentress 10th of Hood Farm, who, however, has already excelled her mother's record as a two-year-old with 551 pounds of butter, and almost equalled her dam's record as a three-year-old.

Sophie 19th's oldest son Pogis 99th, of Hood Farm, has sixteen daughters in the Register of Merit, although he is not yet six years of age.

Under judgment of a veteran breeder Sophie 19th scored $91\frac{3}{4}$ on a perfect scale of points. Surely such characteristics of individuality, productiveness and the ability to transmit these good qualities to the offspring, make for a wonderful dairy cow.

* * *

Live stock conditions at this season of the year, although abnormal in many respects, are in general encouraging. The effects of the foot and mouth disease and the influence of the European war have created abnormalities which are for the most part temporary. The "river markets"—Kansas City and

Omaha—have been experiencing an enormous trade, especially in the feeder and stocker business, due to the quarantine of the Chicago yards.

The hog market is in the midst of a sensational slump, reaching the lowest level since February, 1912. This condition is the result of an accumulation of packers' stocks and the enormous run of light weight hogs during the last two months. The country has plenty of hogs and moderately low prices may be expected to prevail for the winter season.

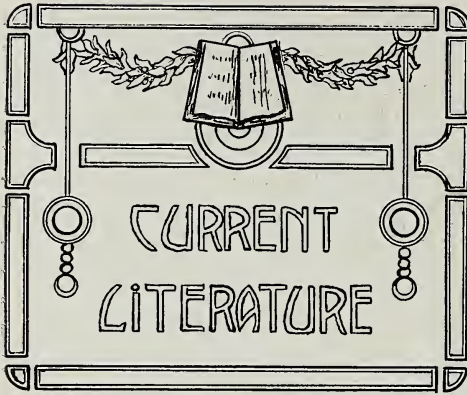
Prospects for the winter cattle season look discouraging, and with feeding cattle selling at prices that are not prohibitive, prime beef may be finished out by experienced feeders with reasonable assurance of a profitable return.

All classes of sheep, especially feeding lambs, are bringing unusually high prices. Range feeding lambs have been taken out at figures as high as \$8.50 per 100 pounds, but it is the opinion of authorities that the purchasers are taking long chances on spring market conditions. The demand for breeding ewes is broad and is the result of an increased demand for mutton and good wool prices.

The horse market is one of war horse trade, with a good demand for sound, heavy horses. Present indications are that there will be an increase in the demand for drafters for many years.



**The Holstein-Friesian, Dutchess Skylark
Ormsby, Champion of the Breed.**



“Mushroom Growing” by B. M. Dugger presents accurately the requirements for success in mushroom growing. The author has spent many years in extended observation upon the best practices of mushroom growers of the present time. He is also a practical man, having had wide experience with experimental and commercial production. The book serves as a complete guide to the beginner and the experienced grower will receive many valuable hints and new ideas. 260 pages, 31 illustrations, \$1.50; Orange Judd Co., New York.

“The Apple” by Albert Wilkinson of Cornell University aims to bring to gether and boil down the great mass of literature dealing with the various aspects of the apple business—growing, harvesting and marketing. In its breadth and scope this volume differs from other in the same field, for they are useful to only a limited locality; this book is equally well adapted to the East, Mid-West, West and South. The author has studied the entire subject in every phase from one end of the country to the other, and has written facts which are indispensable to the farmer, the orchardist, the home gardener and the students in the secondary schools and colleges. The results of research, experimentation and statisti-

cal investigation to determine the most profitable methods in apple culture which have been carried on for a number of years are embodied in this book. 492 pages, illustrated, \$2.00; Ginn & Co., Boston, Mass.

“Farmers of Forty Centuries” by F. H. King deals with the permanent agriculture in China, Korea and Japan. It treats of nearly every agricultural activity which characterizes these countries, presenting clearly the methods of culture, fertilization of land, economics of industry, rainfall and crops. The book is written on the travels taken by Mr. King, and brings out the comparison of the eastern countries with the United States in a popular style. It not only depicts the scenery and common wonders of the country, but presents the actual conditions of agricultural peoples. It is illustrated with 248 photographs taken on the journey. 440 pages, \$2.50; Mrs. F. H. King, Madison, Wis.

“Soils: Their Properties and Management,” by Lyon, Fippin and Buckman, deal with the soils as they have been studied by agronomists, chemists, physicists, botanists, bacteriologists and zoologists, and with the literature that is scattered through the journals of sciences.

In a general way the arrangement of the book is the same as the editions that have appeared before, but the matter itself is almost entirely changed, particularly relating to the colloidal material of the soil, the organic matter, the geo-chemical relations, acidity of soils, absorption, catalytic fertilizers and soil surveys. A complete set of references, all literature cited, enables the reader to go back to the original sources whenever he wishes. 750 pages, \$1.90; The Macmillan Co., New York.



DECEMBER NEWS NOTES

FARMERS' WEEK PLANS

Arrangements have been made by the extension department of the University whereby many of the Ohio farm organizations will hold their annual meetings on the campus during Farmers' Week, January 31, to February 4. The list now includes the Ohio Corn Show, the Ohio Dairymen's Association, the Farm Institute Workers, the Ohio Vegetable Growers' Association and four dairy breed clubs. In addition a state-wide boys' live stock judging contest will be held, in which 126 boys—three from each of forty-two counties in Ohio—will participate. This number includes only the winners at the county judging contests conducted by the extension department of the University last fall.

The dairymen's association will have the use of the Armory for the week. Exhibits of milking machines, dairy apparatus and creamery supplies will be given. Each of the four dairy cattle breed clubs will hold meetings at this time. Other organizations meeting with the dairymen are: The Ohio Cattlemen's Protective Association, the Ohio Creamery Owners and Managers, the Central Ohio Milk Producers' Association and the Ohio Association of Ice Cream Manufacturers. Prof. H. L. Russell, dean of the college of agriculture, Wisconsin University, will be the principal speaker. His subjects will deal with the tuberculin test for dairy cattle.

The poultrymen of Ohio will have an opportunity to hear James E. Rice of Cornell University. His lectures will be supplemented with demonstrations on the killing and dressing of poultry, testing eggs during incubation, judging poultry and judging eggs. Prof. Freeman S. Jacoby of the University will deliver lectures on "Rearing Chickens," "Custom Hatching and Day-Old Chicks" and "Poultry Records and Accounts." Milligan Killpatrick, who comes from New England to direct poultry extension work at Ohio State, will discuss "The Care of the Farm Egg," "Housing the Farm Flock" and "Improving Farm Poultry by Breeding." Other speakers on poultry scheduled are: Charles McClave, the duck fancier; Henry Bromwell, commission agent of Washington C. H., and S. T. Campbell.

O. H. Benson of the United States Department of Agriculture, who will cooperate with the extension department in the contest work throughout Ohio next year, will give daily demonstrations with moving pictures, charts and banners on the junior contest work throughout the United States.

Rose Morgan of Columbia University will repeat her concert given during Farmers' Week last year on "The Songs That Live."

Sixty lectures on every phase of agriculture will be given throughout the

week, supplemented with movies in the chapel and demonstrations of poultry killing, dairying, canning fruits for commercial markets and livestock judging. Practically every faculty member of the agricultural college will assist in the lectures.

Prof. Alfred Vivian, dean of the college of agriculture, will deliver a series of lectures, on each day at 4 p. m., on "A Farmers' Trip Around the World." He will show slides made from 3000 photographs taken while traveling 42,000 miles in 21 different countries. They will illustrate farming conditions in all the foreign countries. The bonnie hills of Scotland, with their rich pastures and grazing herds, will be shown, along with the vine-clad regions of Belgium and France, now cut up by hostile armies huddled in trenches. Egyptians farming in the shadows of the pyramids and under the eyes of the sleepless Sphinx, the poverty-stricken Indian farmer, the intensive culture of the Chinese farmer and the terrace farming of the Philippines will all be shown.

New Grading System Arranged.

The point grading system and a uniform schedule for all first year students was adopted at a recent meeting of the college faculty. The new grading system is to take effect at once, and the new schedule at the beginning of next semester.

Under the new system the grades M, G, A and P have a credit value assigned to them, the grades C and F having no value. The value of each grade in points is as follows: M, 2; G, 1; A, 1 and P, 8. The student must earn a number of credit points equal to his required hours. The grade P is awarded upon the removal of a condition. Any student who for two consecutive semesters fails to receive an

average of P in all courses, that is, 80 per cent of the credit points, is dropped from the University.

The new first semester schedule for freshmen includes, besides drill and gymnasium, chemistry 105 or 109, four hours; zoology 101, three hours; English 101, two hours; mathematics, three hours; drawing 125, two hours; shopwork 101, two hours; and a survey of agriculture, one hour. The last named course will consist of lectures by Dean Alfred Vivian, covering the field of agriculture and to aid the student in the selection of work to be followed later. In the second semester, chemistry, zoology, English, shopwork, drill and gymnasium will be continued. Mathematics, drawing and the survey of agriculture will be replaced by physics, three hours, and geology 105, four hours.

For the purpose of bringing into discussion the latest developments in the science of agronomy, the Columbus section of the American Society of Agronomists was recently formed. Thomas G. Phillips, instructor in agricultural chemistry, was elected president, Adolph E. Waller of the department of farm crops, vice president, and A. F. Head of the department of agronomy, secretary-treasurer. The new local section is open to members of the national organization. Meetings will be held each month of the college year except September and June.

In order that every person in the University interested in agriculture can become a member, the University Grange has selected two teams, headed by Dana G. Coe, junior agriculture, and Aaron F. Head, graduate student, who are leading a movement for an increase of membership.

"Up to the present the Grange has

well served the pupose of a society well served the purpose of a society agricultural college may meet without observing the distinction of the classroom," said Dean Alfred Vivian of the college, "but it is planned to do more than this in the future. The possibilities of such an organization to boost the University throughout the state are unlimited, and to carry out this work properly more members must be secured."

The memorial fund being collected by the Breeders' Gazette for the late Joseph E. Wing, known in agricultural circles as "Alfalfa Joe," may be used for endowing a scholarship at the University.

Eight hundred dollars has been raised and money is still coming in. Cornell University is among the colleges that are raising special contributions for the fund. The students in the agricultural college expect to have a share in the endowment by giving individual sums.

To illustrate ways of getting water into the house, plumbing outfits and methods of sewage disposal, a series of charts has been designed by Virgil Overholt, agricultural engineering representative for the extension department, and prepared by J. H. Platt, junior engineer. Mr. Overholt is using these charts in giving lectures at the extension schools that are being held in the state.

To determine the effects of the calcium-magnesium ratio in the soil upon bacterial life, the department of agronomy is carrying on a series of experiments. Alfalfa is grown in sterilized sand, to which is supplied a nutritive solution and a pure culture of alfalfa bacteria. Each pot will have a different ratio of calcium to magnesium. The

growth rate will be determined by counting the nodules on the roots.

The department of horticulture now has its first display of vegetables in edible condition growing in the new greenhouse. The crops consist of lettuce, radishes, spinach, parsley, endive and Chinese cabbage. The basement of the greenhouse workroom is also being used in producing a crop of mushrooms as a special feature of the vegetable work of the department.

Because of numerous discouragements and the failure to secure financial aid from the state, it has been decided that the Ohio State Apple Show will not be held this year. The annual meeting of the Ohio State Horticultural Society will be held, however, as in former years, with perhaps the addition of displays of horticultural machinery and accessories. The date of the meeting has as yet not been set, but it will probably take place some time in January.

Joel L. Foote and Howard R. Penton, seniors in horticulture, are co-operating with the Ohio Agricultural Experiment Station in storage tests with celery in the cold storage room.

Thursday, February 3, is the day set during Farmers' Week for the advancement of the vegetable growing interests of the state. An all-day program has been arranged, the special speakers of which will be Professor Paul Work of Cornell University; H. B. Fullerton of the Long Island Railroad Co., and Chas. E. Thorne, director, and W. J. Green, horticulturist, of the Ohio Experiment Station. It is also on this day that the vegetable interests expect to perfect the organization of the Ohio Vegetable Growers' Association.

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**Hats, Shoes,
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The Students' Barber at the Students' Building. OHIO UNION.

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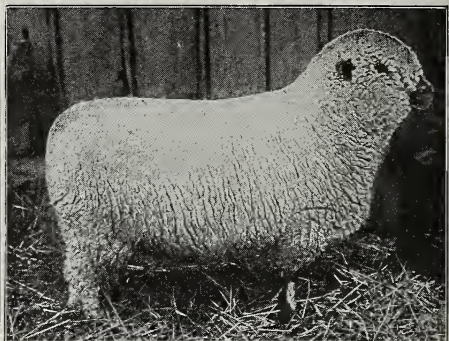
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Bred by

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We have some extra good home bred yearling rams and ewes bred to Imported Tanner or Butter rams which we will offer at reasonable prices for fall delivery. Come and look over our flock, on Newark Traction line, near Wagram Stop.

MAPLECREST BREEDS THE BEST

OUR RECORDS PROVE IT

Name of Cow.	Length of Record, 365 Days.	Lbs. of Butter 80 % Fat.
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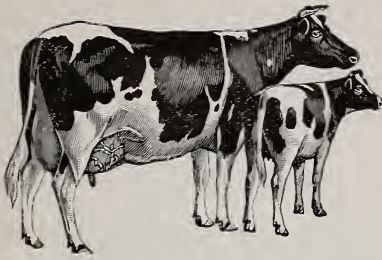
All of these great cows were bred, reared and developed at Maplecrest Farm

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HOLSTEIN CATTLE

With thirty common cows, each giving 3000 pounds of milk per year, introduce a pure-bred registered Holstein bull. In two years you will be milking grade Holsteins yielding with first calf 4,000 to 5,000 pounds. In 3 years, you'll have 6,000 pound cows and will need to keep only fifteen cows to get the same amount of milk. In seven years, you'll have 8,000 to 10,000 pound cows and a ten-cow herd will produce as much milk as your thirty cows do now. Quite a saving in labor, feed and equipment, to say nothing of the increased value of your cows and calves. Investigate the big "Black-and-Whites."

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Get the maximum amount of work out of your horses and keep them in prime condition—head up, tail over the dash. Lower the cost of producing milk. Keeps cows in good flesh and therefore strong and healthy. Raise more beef, mutton and wool. Make Dewey's Stock Feed the foundation of your ration. Puts you in line for the greatest net profits. More energy or horse power, more beef and mutton, more milk.

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to your horses, cattle and sheep with hay and fodder; to your cows with Three D Grains, Cotton Seed Meal, Gluten Feed, Oil Meal or any other high protein concentrate, and hay, fodder or ensilage. If more net profit is what you're after, feed Dewey's Stock Feed.

COMPOSITION: Hominy Feed, Oil Meal,
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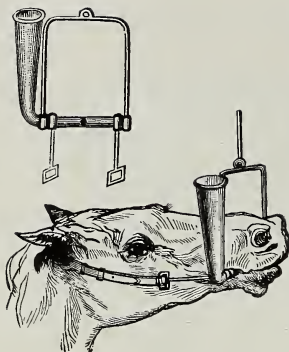
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A standardized coal-tar disinfectant, lice-killer, animal dip.

Always the Same

Destroys disease germs, cures skin troubles. Used and endorsed by

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CAUGHT 51 RATS ONE WEEK

Trap resets itself; 22 inches high. Will last for years. Can't get out of order. Weighs 7 pounds. Twelve rats caught one day. Cheese is used, doing away with poisons. This trap does its work, never fails and is always ready for the next rat. When rats and mice pass device they die. Rats are disease carriers; also cause fires. These Catchers should be in every school building. Rat catcher sent prepaid on receipt of \$3. Mouse catcher, 10 inches high, \$1. Money back if not satisfied.

H. D. SWARTS, Inventor and Manufacturer Universal Rat and Mouse Traps,

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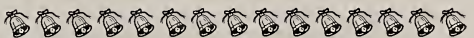
"Orchard Success"

is a small pamphlet of big ideas that you should send for at once. It tells how thoroughly, quickly and cheaply you can rid your orchard of all scale, larvae, eggs and fungi. It describes "scalecide the one great dormant spray," which mixed 1 to 15, is guaranteed to kill every scale it reaches. One barrel equals three barrels of lime sulphur and there is no spray more simple, safe or effective.

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—"without a crack anywhere and keeping the ensilage perfectly, right up to the edge all around"—this is the statement of Mr. W. R. Spann, of Shelbyville's famous "Burr Oak" Farms, while speaking of his

Perfect Reinforced Cement Silos

Storms, wind and weather cannot destroy "Perfect" Silos. Made of everlasting cement blocks, reinforced with wire and steel rods. Absolutely fireproof. Guaranteed not to crack. Write for illustrated, descriptive booklet giving the opinions of leading farmers and dairymen.

REPRESENTATIVES WANTED. Write for terms and free booklet.

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General Sales Agents, Hocking Valley Ensilage Cutters.

THE FEED THAT FATTENS

High Grade Cottonseed Meal

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Established 1901

Strong in Their Allegiance to

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Wyandotte
Dairyman's
Cleaner and Cleanser

in every package

Those who use Wyandotte Dairyman's Cleaner and Cleanser are strong in their allegiance to it because in the dairy and the factory there exist those unusual conditions with which ordinary methods of cleaning are unable to cope, and with which Wyandotte Dairyman's Cleaner and Cleanser contends with ease. Wyandotte Dairyman's Cleaner and Cleanser is more than a cleaner adapted merely for removing bits of dried-on and waste particles. It is a neutralizer of odors, and it counteracts sourness with its sweetening properties.

Thus you can readily see that Wyandotte Dairyman's Cleaner and Cleanser supplies a need that has been ever present in the dairy and one that dairymen have heretofore found perplexing.

With Wyandotte Dairyman's Cleaner and Cleanser it is simple to keep the utensils and separators not only looking clean, but absolutely clean, sweet-smelling and wholesome.

Ask your dealer for a 5-lb. sack, or write your regular dairy supply house for a barrel or keg.

The J. B. Ford Co., Sole Mfrs., Wyandotte, Mich.

This Cleaner has been awarded the highest prize wherever exhibited.

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Why Suffer Losses from **Hog Cholera?**

For prevention, use "544."

If your herd has been exposed, is infected and sick with cholera, treat them with "544."

"544" is a chemical substance—not a serum or virus—and is administered hypodermically.

No dangers of producing abscesses—of new centers of infection—of abortion—of stopping growth or development.

Read the letter below.

LIMESTONE VALLEY STOCK FARM
W. C. Coleman, Prop.

Butler, Mo., Nov. 1, 1915.

The Thiele Laboratories Co., Columbus, Ohio.

Gentlemen:—I have been using your "544" ever since I became aware of its manufacture, and have not had a case of hog cholera on the place since that time.

I have made a practice of treating hogs intended for market at weaning time, and that was sufficient to run them through until fattened and sold. Brood sows I have treated about once every six months with the same result.

My neighbor joining me on one side lost all his hogs this fall from cholera, while mine never missed a meal. Another neighbor, whose hogs run next to the line fence and make a complete exposure for mine, had cholera break out among his hogs this fall, and after losing one, called on the Agricultural Field Agent, who is working for the eradication of hog cholera in this (Bates) county, to vaccinate his hogs with the simple serum treatment. This was done without effect, as he lost all that was sick at the time and some that became sick later.

My neighbor called this party's attention to the fact that his neighbor (the writer) was using "544," and asked if he knew anything about the stuff. He was told that he had heard more or less about it, and that if my neighbor would just wait he would see my hogs get the cholera the same as the balance of the neighbors.

The hog cholera has left this neighborhood, as all the available hogs to work on have died, while mine alone are left.

Several have been converted to the use of "544," but at a very expensive cost.

I have delayed writing until I could see what my hogs done after such severe exposure, and have to report all well and doing fine. Never missed a meal or showed any signs of cholera.

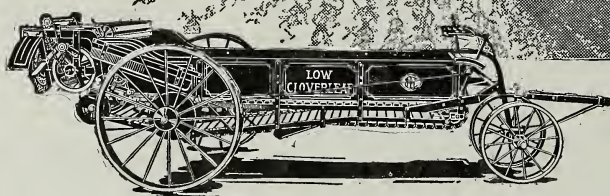
Yours very truly,
G. C. COLEMAN.

If interested, or further information is desired, write for free booklet to

THE THIELE LABORATORIES CO.

407 Hartman Building, Columbus, Ohio.

**GRAND PRIZE
WINNER
AT
SAN FRANCISCO
EXPOSITION**



International Harvester Manure Spreaders

“MOST machines handle crops—the manure spreader produces crops.” There is a lot of food for thought in that sentence. When you have crops ready, you need machines for the harvesting, but before you can have crops you must have fertile soil. Your yields depend on how well you fertilize the soil.

In the choice of a spreader—your crop producer—you cannot be too careful. Avoid all chance of going wrong by choosing an **International Harvester** spreader—**Low Corn King, Low Cloverleaf, or Low 20th Century.**

IHC spreaders are built from careful designs based on rigorous field tests; strength in every part makes them last for years; they can be had with an attachment spreading 8 feet wide or more; they are low for easy loading; narrow for easy handling in yard, stable and field.

If your local dealer can't show you an **IHC** spreader, write us for our booklet “Why You Should Use a Manure Spreader,” and when we send it we will tell you where you can see the machine. Don't buy until you have seen an **IHC** spreader.

International Harvester Company of America
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Champion Deering McCormick Milwaukee Osborne Plano

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THE very foundation of our Agriculture depends upon the presence of Lime in the Soil.

We can see that your wants are supplied, as our Manufacturers produce all of the various kinds.

Alfalfa can not thrive without it.

Write us for special information.

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now bring the facts from the Experiment Station direct to the Farmer. The Experiment Station men are anxious to discuss the questions of most value to the people along the routes. Ask them to bring along an exhibit of fertilizer materials and to tell you how to get the most plant-food for your money.

Recently one train gave demonstrations of actual fertilizer mixing. Soon many will do so. Take your fertilizer dealer to these trains. Ask him to sell

POTASH SALTS

and brands containing six to ten per cent. Potash. We shall be glad to send you, FREE, pamphlets prepared by the best practical authorities on fertilizers for various crops and soils. Write today, mentioning crops and soils that you wish to improve.

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DOLLARS IN DAIRYING

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The door of the Ohio Dairy Company swings wide open to the dairymen of Ohio. Ship direct and cut out the middleman's profit. We give you the advantage of the highest prices—pay 1 cent above Elgin Market for butter fat. Your pay check is mailed usually the next day after the cream is shipped. Every check mailed you shows a statement of the weight and test of your cream and you can figure out for yourself the amount of money you should receive. Direct shipping to this Company means

HIGHEST PRICES
SURE MARKET THE YEAR ROUND
ABSOLUTE FINANCIAL RESPONSIBILITY

The Ohio Dairy Co.
COLUMBUS, OHIO

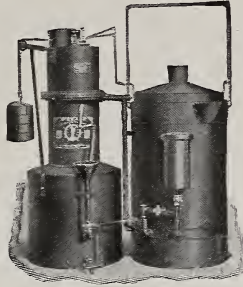
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SUPPLY A CITY CONVENIENCE TO COUNTRY HOMES

A simple, automatic gas machine, producing the most beautiful light in the world. Cheaper than kerosene. Installed in cellar or outside the house.

Absolutely Safe
Always Ready



Handsome ornamental chandeliers.

Barns lighted by pull of a chain—no matches needed.

Clean and cheap for cooking.

A Cool Kitchen
in Summer.

Used today in more than 250,00 Country Homes. Pilot Lighting Plants installed complete, ready for use and guaranteed. Write for estimate.

OXWELD ACETYLENE COMPANY

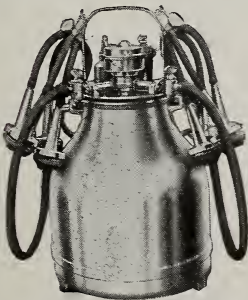
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How Many Cows Can You Milk in An Hour?

With two B-L-K Milkers one man can milk 26 cows in an hour



Burrell (B-L-K) Milkers

They are easy to handle and great money savers. Dust and dirt cannot get into the machines at milking time and they are easily kept clean and sterile.

If you are interested in high grade milk and a method of reducing your milking cost, write today for our

Illustrated Book FREE

It gives you valuable information on producing certified milk easily and in the cheapest way.

Drop us a postal today. The booklet is Free.

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503 Albany Street, LITTLE FALLS, NEW YORK.

Manufacturers also of "Simplex" Cream Separator and other "Simplex" specialties—"The Best in the World."

WHY CO-OPERATION PAYS MOST MONEY FOR CREAM

Because We Pay the Freight and Give the "Tenths"

See the value of the "Tenths" to William J. Ayers, Morrow, O., who shipped us during November, 1915, as follows:

With the "Tenths" Counted.					Same Without "Tenths" Counted.				
		Cream	Test	Fat			Cream	Test	Fat
November	1...	39.5	24.2	9.55	November	1...	39	24	9.36
"	5...	37.4	24.2	9.05	"	5...	37	24	8.88
"	10...	35.8	23.0	8.23	"	10...	35	23	8.05
"	15...	39.9	22.6	9.01	"	15...	39	22	8.58
"	20...	40.7	26.5	10.78	"	20...	40	26	10.40
"	26...	39.6	22.8	9.02	"	26...	39	22	8.58
				55.64					53.85

Bringing Down 100,000 Tons of ALPHA Cement Rock

This picture was taken at the Martin's Creek (Pa.) ALPHA CEMENT plant at the time of firing 10½ tons of dynamite loaded in thirteen 6-inch holes bored 170 feet deep, down the entire face of the quarry. 100,000 tons of the finest cement rock were dislodged.

This rock has just the proportions for a perfect Portland Cement.

In all of the six ALPHA CEMENT plants tests are made hourly day and night. ALPHA

chemists and chemical engineers are real bosses.

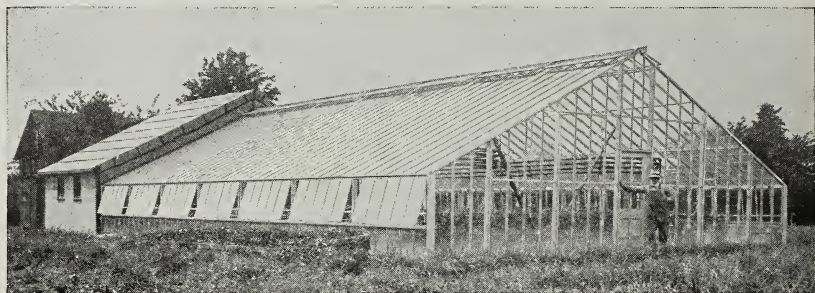
In composition, thorough burning and fine grinding, ALPHA Portland Cement represents the high-water mark of quality. Every bag of ALPHA is guaranteed to more than meet standard specifications.

"ALPHA CEMENT—How to Use It," a practical illustrated 80-page hand-book, showing how to build dozens of concrete home- and -farm improvements, sent free.

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Why Henry Newsome Built a Greenhouse

MR. NEWSOME lives on his little farm at Saint Thomas, Ontario. Perhaps you know him. If you do, you know how carefully he goes about everything he does, which makes him a pretty safe man to follow.

To use his words: "I grew tired of working like sixty half the year, and then the other half, working half time, trying to keep busy working. So I made up my mind to build a little greenhouse, and try my hand at raising out-of-season vegetables. I bought the materials from your concern, for

a house 35x50 feet, and erected them myself."

"Have I made it pay?" you ask. "Well, if it hadn't, would I have given you an order for enough more material to make the house twice as long?"

Why don't you follow Mr. Newsome's idea, and farm extensively outdoors, part of the year, and intensively, in one of our greenhouses, the rest of the year?

Make money every month, instead of for a few months.

Let us go into every phase of the proposition with you, and during the long winter evenings you can be doing some figuring.

Lord & Burnham Co.

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Louden Hog Pens

No animal on the farm is more responsive to considerate treatment and sanitary surroundings than the hog. All experts on hog diseases agree that the millions of dollars lost annually through hog cholera is directly traceable to filthy, unsanitary surroundings.

A Louden Planned Hog House

equipped with Louden Steel Pens is your best safeguard. It is so constructed and arranged that every inch of the floors can be easily cleaned and disinfected. No cracks or crevices in which germs can develop.

Free Plan Book

If you intend to build or remodel a barn and will tell us the number of cows, horses or hogs you want to house, we will send you our \$1.00 book of plans free.

New Catalogs:

Dairy Barn Equipment — Hay Tools — Feed and Litter Carriers.

The Louden Machinery Company

5204 Broadway

(Established 1867)

Fairfield, Iowa



DE LAVAL SEPARATORS

Save in 7 Ways

Quantity of cream that no other separator will recover completely, particularly under the harder conditions of every day use.

Quality of cream as evidenced by De Laval butter always scoring highest in every important contest.

Labor in every way over any gravity system, and also over any other separator, by turning easier, being simpler, easier to clean and requiring no adjustment.

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Profit in more and better cream, with less labor and effort, every time milk is put through the machine, twice a day, or 730 times a year for every year the separator lasts.

SATISFACTION, which is no small consideration, and can only come from knowing you have the best separator, and being sure you are at all times accomplishing the best possible results.

EASY TO PROVE THESE SAVINGS

These are all facts every De Laval local agent is glad of the opportunity to prove to any prospective buyer. If you don't know the nearest De Laval agency simply write the nearest main office, as below.

The De Laval Separator Co.

165 Broadway, New York

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50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER